MONEY AND INCOME IN COLOMBIA, 1950-1960

By

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A DISSERTATION PRESENTED TO THE GRADUATE COUNCIL OF
THE UNIVERSITY OF FLORIDA
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

December, 1964

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Dedicated to

My Family

PREFACE

This treatise reflects the growing recognition that there is far too little theoretical analysis in contemporary studies of underdeveloped areas, while at the same time according some credence to the view that there is too little reality in current analytical theory. Hopefully, the following represents one small step towards the desired balance.

The platform for this attempt is the Colombian economy during the 1950's. Yet any historical study that attempts to be both manageable and unified must be organized around some focus. The focus of this study is on the growth of national income and the supply of money in Colombia. The unifying agent is the theoretical model developed in the latter chapters of the study. Thus, the entire treatise is based on reasoning from the particular to the general.

The author's obligations in this undertaking are manifold. The names of all of those who lent material assistance are too numerous to list. However, the following must be singled out for their patient reading of the manuscript and constructive criticism: Professors R. W. Bradbury, E L. Jackson, H. Kantor and A. Ramirez, all of the University of Florida. In addition, the author is greatly in debt to Professors C. C. Curtis and R. L. A. Sterba who have read and criticized all or part of the theoretical aspects of the study. As is customary, however, the author accepts complete responsibility for the errors which remain.

The author wishes to express special acknowledgement to the many Colombians who lent much of their time and gave freely of their hospitality to the author and his family during their stay in Colombia. In particular, four fine friends must be mentioned by name: Professors Anacleto Apodaca, José Miguel Bernal, Albert H. Flores and Reynaldo Escarpeta, all of the Universidad del Valle, Cali. The author expresses appreciation to Douglas Pajak for his drafting of the illustrations.

A National Defense Education Act fellowship enabled the author to devote his full attention to this project; and a grant from the Caribbean Area Research Program at the University of Florida was of substantial assistance.

The author's obligation to his wife is immeasurable. She not only typed every draft of the manuscript but did so patiently and in good humor. Equally amazing was her ability to tolerate, sustain and encourage her husband through the many months spent in the preparation of this study. Without her complete cooperation the task of writing this study would have been impossible.

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CHAPTER I

INTRODUCTION

This study is an attempt to blend two things: the first is an examination of some of the main aggregative facts of the Colombian economy during the decade of the fifties; the second is the construction of a model that gives insight to these facts.

The plan of the work is fairly straightforward. In Chapters II, III and IV we shall center our attention on the growth of national income, with special recognition of the role played by investment demand; on the rapid expansion of the money supply; and on some of the most significant economic aspects of the Colombian banking system and monetary and credit policies pursued during the decade.

Chapters V and VI construct and apply to the Colombian economy a theoretical model in the Keynesian tradition in order to demonstrate the interrelated aspects of investment demand, savings supply, the demand for money, and the supply of money. The intention will be to construct a framework of some value for explaining, and possibly predicting, experiences in other underdeveloped countries similar to those of Colombia while, at the same time, relating the theoretical construct to the Colombian situation between 1950 and 1960.

Of the three appendixes that follow the main body of the study, the first concerns some technical aspects of the computation of the official Colombian wholesale price index and presents a method designed

to verify its reliability. The second appendix describes and examines the Colombian system of national income accounting, and the third contains the method employed in order to approximate the supply of money by isolating four primary determinants of the money supply.

At the very outset, it will not be amiss to indicate the relative magnitude of the variables under study. Thus, Columns 1, 2 and 4 of Table 1-1 indicate that between 1950 and 1960 the level of national income rose by 219 per cent, the supply of money by 290 per cent, and the general level of wholesale prices by only 119 per cent.[1] With two exceptions, there were no years during the decade when all of these three variables did not increase.

The ratio of national income to the supply of money, commonly called the income velocity of money, exhibited a marked tendency to decline during the decade of the fifties, as shown in Column 3 of Table 1-1. Thus, during the period the quantity of money which the public wished to hold increased far more rapidly than income. The generally increasing liquidity of the Colombian economy, as reflected in the declining velocity of money, served to prevent an even more rapid increase in the price level and the level of national income.[2]

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[1] See APPENDIX A.

[2] Since an increasing price level is an index of inflation, it is generally thought to be undersirable. However, a rapidly rising level of national income may also be an indication of inflation. This is because national income is conceptually the quantity of output of goods and services times the price level at which these goods and services are sold. Consequently, national income may conceivably rise only in response to rising prices, and, therefore, merely indicate inflation and not a growth of output. This is a particular danger under conditions of relative supply inelasticity such as existed in Colombia.

TABLE 1-1

INDEXES OF COLOMBIAN NATIONAL INCOME, MONEY SUPPLY, WHOLESALE PRICES, AND REAL CASH BALANCES AND INCOME VELOCITY, 1950-1960[a]

Year	National Income in Current Pesos[b] (1)	Money Supply[c] (2)	Income Velocity[d] (3)	Official Wholesale Price Index[e] (4)	Real Cash Balances [Col. (2) ÷ Col. (4)] (5)
1950	100.0	100.0	7.0	100.0	100.0
1951	112.0	98.8	8.0	107.9	91.6
1952	121.0	122.1	7.0	106.6	114.5
1953	134.7	140.5	6.8	112.8	124.6
1954	159.9	171.5	6.6	120.7	142.1
1955	164.5	186.3	6.2	121.6	153.2
1956	185.1	219.6	5.9	131.9	166.5
1957	216.4	267.2	5.7	163.9	163.0
1958	240.7	311.6	5.4	192.2	162.1
1959	279.1	364.3	5.4	210.7	172.9
1960	319.2	390.0	5.8	219.5	177.7

[a]For sources of information, see references cited in Columns (1), (2), and (4).

[b]See Chapter II, Table 2-1.

[c]See Chapter III, Table 3-1, Column 2.

[d]National income in current pesos divided by the average money supply.

[e]See APPENDIX A, Table A-1.

As with the declining velocity of money, the increasing level of real cash balances, or the ratio of the money supply to the level of wholesale prices, shown in Column 5 of Table 1-1, also reflected the generally increasing liquidity of the Colombian economy during the period under study.

It is clear from these brief statements that the Colombian economy which emerged from the disruptions of the Second World War and the immediate post-war period produced a variety of distinguishing features -- moderate inflation, a rapid increase in the supply of money, a significant growth in the level of national income -- admixed with the rise of large government budgets.[3]

Yet the end of the decade of the fifties appears to form a discernable line of demarcation between the years 1950 to 1960 and the first third of the 1960's.

While the eleven years since the mid-century point witnessed the rise of large government budgets in Colombia, government expenditures did not show a tendency to consistently exceed revenues. Indeed, a majority of the eleven years were years of budgetary surplus. The opposite has been true since 1960. Not only has there been a government deficit in every year since 1960, but the size of each annual deficit has been a multiple of the largest deficit incurred during the decade of the fifties.

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[3]See Chapter II.

Similarly, the rate of increase of the money supply, quite rapid during the 1950's, has tended to rise slightly since 1960.

Perhaps of more importance, however, has been the significant rise in the rate of inflation since 1960. While the level of wholesale prices rose only 119 per cent during the eleven years 1950 to 1960, from 1960 to April of 1964 this index rose by a further 116 per cent. Similarly, the cost of living index rose by 161.3 per cent from 1960 to April, 1964 while during the entire period 1950 to 1960 this index rose by only 94 per cent.

These factors in general and the increasing tempo of inflation in particular tend to suggest that our analysis be confined to the period 1950 to 1960, a period of moderate inflation.

CHAPTER II

NATIONAL INCOME

2-1 Introduction

Whether measured in real or money terms, conceived of as income or product, net or gross, or expressed on a total or a per capita basis, the performance of the Colombian economy between 1950 and 1960 must be viewed as the result of competing and, in some cases, contradictory forces.

On the negative side there were posed a series of obstacles to economic development. In Colombia, as in most of Latin America, these factors exerted strong restrictive pressures throughout the period under study. Six of the most serious obstacles to growth may be mentioned, while some will require further comment at a later point. These six impediments were, first, an inadequate knowledge and use of natural resources; second, a deficiency of investment in the infrastructure and for productive purposes; third, a lack of diversification of production; fourth, the vulnerability of the internal economy due to excessive dependence upon the export sector; fifth, the lack of a large entrepreneurial class and of the corporate form of enterprise; and sixth, certain prevailing institutions which tended to create economic bottlenecks, such as the land-tenure system, an inadequate

credit structure, the absence of a stable and competent public administration, political instability, and, in some areas, the lack of a homogeneous culture.[1]

In spite of these impediments, however, the decade of the fifties was an encouraging one for the Colombian economy, involving a mitigation of many of the obstacles to its growth, progressive industrialization, and far-reaching, radical changes in the basic economic structure. The structural changes themselves may prove to be of far greater importance to the future development of the economy than the growth of real income which occurred during the same period.

The most significant national income concepts and their corresponding values for the years 1950 to 1960 are summarized in Table 2-1.[2] From this table it can be seen that the most comprehensive measure of national income, Gross National Product at market prices, grew by over 236 per cent if measured in current pesos and by almost 50 per cent if measured in pesos of a constant value. On the other hand, National Income measured in current pesos rose by almost 220 per cent, and by slightly over 53 per cent if measured in constant pesos.

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[1] U.S., Congress, Joint Economic Committee, Subcommittee on Inter-American Economic Relationships, Hearings, Economic Developments in South America, Appendix C, 87th Congress, 2nd Session, 1960, pp. 133-135.

[2] See APPENDIX B for a brief discussion of the structure of the National accounts as they now exist in Colombia. The concepts contained in Table 2-1 conform to this method.

TABLE 2-1

SELECTED NATIONAL INCOME ACCOUNTS IN CURRENT PESOS AND IN CONSTANT PESOS OF 1958, 1950-1960[a]
(in millions of pesos)

Year		1950	1951	1952	1953
Gross National Product at Market Prices	Current Pesos	7,777.5	8,843.1	9,570.1	10,647.7
	Constant Pesos of 1958	15,037.7	15,127.1	16,097.6	17,562.0
Gross Domestic Product at Market Prices	Current Pesos	7,860.5	8,940.9	9,650.9	10,734.7
	Constant Pesos of 1958	14,688.8	15,146.6	16,102.0	17,081.0
Gross Domestic Product at Factor Cost	Current Pesos	7,400.5	8,345.2	9,003.4	10,006.6
	Constant Pesos of 1958	13,754.2	14,177.3	15,070.3	15,940.8
Net Domestic Product at Factor Cost	Current Pesos	6,919.9	7,755.6	8,356.4	9,299.0
	Constant Pesos of 1958	12,561.5	12,812.7	13,631.2	14,351.0
Net National Product or National Income at Factor Cost	Current Pesos	6,836.9	7,657.8	8,275.6	9,212.0
	1950 = 100	100.0	112.0	121.0	134.7
	Constant Pesos of 1958	12,260.8	12,539.8	13,395.8	14,088.3
	1950 = 100	100.0	102.3	109.3	114.9

[a]Source: "Cuentas Nacionales, 1950-1961" (Departamento de Investigaciones Económicas, Banco de la República), pp. 1-3, 12-17. (Mimeographed.) For method of calculation, see APPENDIX B.

TABLE 2-1--Extension

1954	1955	1956	1957	1958	1959	1960
12,679.7	13,153.6	14,708.0	17,500.1	20,267.4	23,150.9	26,162.2
19,459.3	19,540.8	20,321.4	20,384.6	20,267.4	21,592.2	22,412.4
12,758.8	13,249.8	14,862.8	17,810.6	20,682.5	23,472.1	26,417.6
18,262.3	18,976.1	19,745.7	20,186.2	20,682.5	22,128.6	23,041.8
11,808.4	12,254.4	13,875.5	16,739.9	19,311.0	21,943.6	24,744.2
16,994.1	17,675.6	18,407.6	18,842.2	19,311.0	20,627.6	21,442.6
11,014.1	11,342.2	12,813.2	15,107.0	16,874.4	19,402.7	22,077.4
15,278.3	15,786.2	16,438.6	16,672.7	16,874.4	18,294.9	19,116.8
10,935.0	11,246.0	12,658.4	14,796.5	16,459.3	19,081.5	21,822.0
159.9	164.5	185.1	216.4	240.7	279.1	319.2
15,055.1	15,579.7	16,193.2	16,272.1	16,459.3	17,956.9	18,861.8
122.8	127.1	132.1	132.7	134.2	146.5	153.8

TABLE 2-2

GROWTH OF NATIONAL INCOME AT FACTOR COST MEASURED IN CONSTANT PESOS, 1950-1960

Year	National Income in Constant Pesos of 1958 (in Millions of Pesos)	National Income in Constant Pesos of 1958: Annual Percentage Increase	Per Capita National Income in Constant Pesos of 1958[a] (in pesos)	Per Capita National Income in Constant Pesos of 1958: Annual Percentage Increase
	(1)	(2)	(3)	(4)
1950	12,260.8		1,095.9	
1951	12,539.8	2.3	1,070.4	-2.4
1952	13,395.8	6.8	1,118.6	4.5
1953	14,088.3	5.2	1,150.7	2.9
1954	15,055.1	6.9	1,202.9	4.5
1955	15,579.7	3.5	1,217.6	1.2
1956	16,193.2	3.9	1,238.0	1.7
1957	16,272.1	.5	1,217.0	-1.7
1958	16,459.3	1.2	1,204.1	-1.0
1959	17,956.9	9.1	1,285.0	6.7
1960	18,861.8	5.0	1,320.4	2.8
Annual Average Rate of Increase		4.4		1.9

[a]Computed by dividing estimated population into Column (1).

The annual growth of real National Income, or National Income measured in constant pesos, is shown in Table 2-2, both by total and as a per capita measurement. The annual average rate of growth of real National Income between 1950 and 1960 without consideration of the growing population was 4.4 per cent, while on a per capita basis the rate of growth averaged 1.9 per cent.

The latter measurement of real growth may, at first glance, seem disappointly low. Growth of real per capita National Income probably does most accurately gauge the state of economic welfare and the rising standard of living which the population is able to maintain.

Yet as a measure of the strength and output of the economy as a whole such a concept may contain a serious shortcoming. Real per capita income may rise only very slowly due to an abnormal population expansion. This appears to have been the case in Colombia where, during the decade of the 1950's, population expanded by a fantastic 33 per cent. As a result, the per capita measurement seems to contain an untoward bias against the performance of the Colombian economy.

2-2 Structural Change: The Composition of Output and Investment

The trend of industrialization and structural change in the domestic economy began many years prior to the beginning of the period under examination in this study and was maintained during this period. The most obvious evidence of this factor was indicated by the changing composition of the output of the economy, shown in Tables 2-3 and 2-4.

While these tables are not directly comparable because of slightly differing bases of total value, they clearly argue that the structure of the economy has been undergoing significant and widespread change.

TABLE 2-3

PERCENTAGE COMPOSITION OF THE VALUE OF PRODUCTION OF GOODS AND SERVICES, MEASURED IN CONSTANT PESOS OF 1950, BY ECONOMIC ACTIVITIES, 1925, 1945, 1953[a] (in per cent)

Year	1925	1945	1953
Agriculture and Livestock	58.8	47.0	36.9
Mining	1.5	3.7	3.7
Manufacturing	7.6	13.4	17.2
Artisan Industry	2.9	3.1	3.8
Construction	2.6	6.1	4.8
Transport	2.3	4.2	7.4
Energy, Communication, Public Utilities	0.4	0.7	1.2
Government	5.7	5.5	6.9
Trade, Finance, Services	8.7	10.2	12.9
Personal Income from Rentals	9.5	6.1	5.2
Total Value of Production	100.0	100.0	100.0

[a]Source: United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Analyses and Projections of Economic Development, III, The Economic Development of Colombia (E/CN.12/365/Rev. 1, November, 1956) (Geneva, 1957), p. 16.

The traditional rural economic activities -- agriculture and livestock -- had been diminishing in importance from 1925 to the beginning of the decade under study. From 1950 to 1960 the same trend continued, reducing the contribution of these activities from 40.1 per cent to 34.7 per cent of the total money value of current output.

TABLE 2-4

PERCENTAGE COMPOSITION OF THE VALUE OF GROSS DOMESTIC PRODUCT AT FACTOR COST, MEASURED IN CONSTANT PESOS OF 1958, BY ECONOMIC ACTIVITIES, 1950-1960[a]
(in per cent)

Year	1950	1951	1952	1953	1954
Agriculture and Livestock	40.0	39.3	39.5	37.5	36.0
Fish and Wildlife	0.1	0.1	0.1	0.1	0.1
Forestry	0.3	0.3	0.3	0.3	0.3
Mining	3.8	4.1	3.8	3.8	3.7
Manufacturing	13.9	13.9	14.0	14.4	14.8
Construction	2.8	2.6	2.6	3.1	3.8
Commerce	12.8	12.9	12.7	13.6	14.2
Transport	5.3	5.7	6.1	6.2	6.4
Communications	0.5	0.5	0.5	0.5	0.6
Energy and Public Utilities	0.5	0.5	0.6	0.6	0.6
Banking and Finance	1.8	1.8	2.0	2.0	2.2
Net Housing Rental Income	5.2	5.0	4.9	4.8	4.7
Government	5.0	5.3	5.2	5.6	5.2
Personal Services	8.0	8.0	7.7	7.5	7.4
Total Value of Gross Domestic Product	100.0	100.0	100.0	100.0	100.0

[a]Source: "Cuentas Nacionales, 1950-1961" (Departamento de Investigaciones Económicas, Banco de la República), p. 15. (Mimeographed.)

TABLE 2-4 -- Extension

1955	1956	1957	1958	1959	1960
35.5	35.2	36.5	36.7	36.1	34.7
0.1	0.1	0.2	0.2	0.2	0.2
0.3	0.4	0.4	0.4	0.4	0.4
3.6	3.8	3.8	3.8	4.1	4.1
15.1	15.6	15.9	16.2	16.4	16.7
3.9	3.9	3.6	3.4	3.5	3.2
13.6	12.9	12.4	12.1	12.5	12.8
6.9	6.7	6.3	5.7	5.8	6.2
0.6	0.6	0.6	0.7	0.7	0.7
0.6	0.7	0.7	0.7	0.8	0.9
2.4	2.6	2.2	2.1	2.0	2.2
4.7	4.8	4.9	5.1	5.1	5.3
5.2	5.1	4.9	5.2	4.9	5.0
7.5	7.6	7.6	7.7	7.5	7.6
100.0	100.0	100.0	100.0	100.0	100.0

The opposite trend existed in several economic activities associated with economic development, the growth of more highly productive economic activity, and a decreasing reliance on export activities and raw material production. The importance of manufacturing industry is, in this connection, most relevant. This type of activity grew to represent nearly 17 per cent of the value of all output by 1960, with a significant increase in the period 1950 to 1960.

Other similar types of activity related to development and structural change also grew in relative importance. Most significant in the period before 1950 was the growth of the transport, trade, finance and service sectors, while after 1950 the growth of construction activity was highly important.

Concommitant with the changing relative importance of rural traditional economic activities and the newer more productive activities was a similar pattern of change in the composition of fixed investment and in the distribution of the economically-active population. These changes are reflected in Tables 2-5 through 2-8.

The composition of fixed investment is of strategic importance. While the total amount of fixed investment (measured in constant pesos of 1950) increased by 81.8 per cent from the period 1925-29 to the 1945-53 period and by 51.9 per cent (measured in constant pesos of 1958) from 1950 to 1960, the distribution of these gains was not evenly allocated by economic activity. For example, between 1925 and 1953 investment in agricultural machinery and equipment grew by only 4.6 per cent while investment in industrial machinery and equipment rose

TABLE 2-5

PERCENTAGE COMPOSITION OF THE VALUE OF FIXED GROSS INVESTMENT, MEASURED IN CONSTANT PESOS OF 1950, BY TYPE OF INVESTMENT, 1925-1953[a] (in per cent)

Year	1925-29	1930-38	1939-44	1945-53
Machinery and Equipment	36.4	22.0	16.2	34.5
Building	12.2	16.4	23.2	24.1
Other Construction Activities and Improvements	51.4	61.6	60.6	41.4
Total Value of Fixed Gross Investment	100.0	100.0	100.0	100.0

[a]Source: United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Analyses and Projections of Economic Development, III, The Economic Development of Colombia (E/CN.12/365/Rev. 1, November, 1956) (Geneva, 1957), p. 21.

by 75.7 per cent and that in the field of transportation by 96.5 per cent. Similarly, during the same period construction investment in urban dwellings rose by 310.5 per cent, investment in factory and workshop building by 376.5 per cent while investment in rural, or agricultural, building remained negligible.[3]

[3]United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Analyses and Projections of Economic Development, III, The Economic Development of Colombia (E/CN.12/365/Rev. 1, November, 1956) (Geneva, 1957), p. 21.

TABLE 2-6

PERCENTAGE COMPOSITION OF THE VALUE OF FIXED GROSS INVESTMENT, MEASURED IN CONSTANT PESOS OF 1958, BY TYPE OF INVESTMENT, 1950-1960[a]
(in per cent)

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Machinery and Equipment	49.6	55.0	39.9	61.8	58.2	58.0	55.1	41.1	41.5	38.4	49.5
Building	26.7	20.0	21.4	18.3	19.0	16.4	19.8	26.6	27.8	30.9	23.8
Other Construction Activities and Improvements	23.7	25.0	23.7	19.9	22.8	25.6	25.1	32.3	30.7	30.7	26.7
Total Value of Fixed Gross Investment	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Source: "Cuentas Nacionales, 1950-1961" (Departamento de Investigaciones Económicas, Banco de la República), p. 17. (Mimeographed.)

These same growth patterns continued throughout the nineteen-fifties. Most of the investment in machinery and equipment and in building has come to be in the areas of industry, commerce, transportation, or in public utilities. Government policies pursued throughout this period have tended to accentuate and foster this trend. Several of these policies will be discussed at a later point in this chapter.

2-3 Structural Change: The Pattern of Employment and the Foreign Trade Sector

During the same period, beginning in the years after World War I and continuing until the present time, the pattern of employment reflected a similar decreasing emphasis on agricultural output and production for export in favor of employment in industry, construction, and the services. As shown in Table 2-7, the percentage of population engaged in the traditional agricultural sector has considerably decreased, while the reverse is most notably apparent in manufacturing and artisan industry. These same trends continued from 1950 to 1960 with the share of active population employed in industry reaching 15.8 per cent by 1960 (see Table 2-8), an all-time high.

Yet another strain which shaped the performance of the economy during the decade of the fifties was the relationship between the value of Colombian exports of goods and services and the Gross National Product. As can be seen in Table 2-9, such a relationship expressed as a ratio of the former to the latter shows no marked change of a

TABLE 2-7

PERCENTAGE DISTRIBUTION OF ACTIVE POPULATION, BY ECONOMIC ACTIVITIES, 1925, 1945, 1953[a]
(in per cent)

Year	1925	1945	1953
Agriculture	68.5	59.9	53.8
Mining	1.6	2.1	2.0
(a) Mining Proper	0.4	0.5	0.5
(b) Artisan Mining	1.2	1.6	1.5
Manufacturing	3.4	5.2	6.4
Artisan Industry	7.9	7.3	8.5
Construction	1.8	2.7	3.6
Transport, Communications, Energy		2.5	3.2
Trade and Finance	16.8	5.8	6.4
Government		2.4	3.7
Services		12.1	12.4
Total Active Population	100.0	100.0	100.0

[a] Source: United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Analyses and Projections of Economic Development, III, The Economic Development of Colombia (E/CN.12/365/Rev. 1, November, 1956) (Geneva, 1957), p. 17.

permanent nature if exports are valued in current pesos. The constancy of this ratio is largely due to the special treatment of coffee-export incomes which the Colombian government instituted in 1954. This policy will be discussed at a later point in this chapter.

Of more importance, however, is the ratio of exports to Gross National Product when the former are valued in terms of United States

TABLE 2-8

PERCENTAGE OF ACTIVE POPULATION IN INDUSTRY, 1950-1960[a]
(in per cent)

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Industry, Total	14.6	14.7	14.9	15.1	15.0	14.9	15.4	15.7	15.6	15.7	15.8
Industry, Manufacturing	4.5	4.6	4.7	4.8	4.6	4.6	4.9	5.2	5.1	5.2	5.3
Industry, Artisan	10.1	10.1	10.2	10.3	10.4	10.3	10.5	10.5	10.5	10.5	10.5

[a]Source: Consejo Nacional de Política Económica y Planeación, Departamento Administrativo de Planeación y Servicios Technicos, Plan General de Desarrollo Económico y Social, II Parte: Industria (Bogotá: Imprenta del Banco de la República, 1962), p. 19.

TABLE 2-9

VALUE OF EXPORTS OF GOODS AND SERVICES AS
A PERCENTAGE OF GROSS NATIONAL PRODUCT
AT MARKET PRICES, 1950-1960[a]

Year	Gross National Product in Current Pesos (in Millions of Pesos) (1)	Value of Exports in Current Pesos (in Millions of Pesos) (2)	Ratio of Exports in Current Pesos to G.N.P. in Current Pesos (2)/(1) (3)	Gross National Product in Constant Pesos (in Millions of Pesos) (4)	Value of Exports in Current U.S. Dollars (in Millions of dollars) (5)	Ratio of Exports in Current U.S. Dollars to G.N.P. in Constant Pesos (5)/(4) (6)
1950	7,777.5	771.	9.91	15,037.7	395.6	2.63
1951	8,843.1	985.	11.14	12,127.1	463.3	3.06
1952	9,570.1	1,083.	11.32	16,097.6	473.3	2.94
1953	10,647.7	1,410.	13.24	17,562.0	596.0	3.39
1954	12,679.7	1,579.	12.45	19,459.3	657.1	3.38
1955	13,153.6	1,464.	11.13	19,540.8	579.6	2.97
1956	14,708.0	1,600.	11.29	20,321.4	599.1	2.95
1957	17,500.1	1,851.	10.58	20,384.6	511.1	2.51
1958	20,267.4	2,322.	11.46	20,267.4	460.7	2.27
1959	23,150.9	2,445.	10.56	21,592.2	474.3	2.20
1960	26,162.2	2.597.	9.93	22,412.4	464.9	2.07

[a] Sources: Columns (1) and (4), Table 2-1; Columns (2) and (5), International Monetary Fund, International Financial Statistics (1950-1961).

dollars and the latter in terms of constant pesos. This ratio more realistically reflects the trend of the capacity of the Colombian economy to import from abroad. Table 2-9 clearly indicates the rising capacity to import prior to mid-1954 and the drastic decline following the break in the New York price for coffee. The decline in this ratio indicates a long-run trend operating since 1955 to reduce the relative contribution of export income to Gross National Product.

Related to this declining ratio has been the failure of the Colombian economy to diversify its export sector. Much official and private concern has been expressed in Colombia indicating recognition of this problem. But no structural reform of the export sector, tending to reduce its dependence upon coffee sales abroad, was forthcoming. Coffee exports, valued in terms of current United States dollars, varied between 83 per cent and 71 per cent of the value of all exports between 1950 and 1960.[4]

A recent study surveyed and ranked 76 countries according to the dependence which each country placed on its three exports of highest value (in 1957). In this survey Colombia ranked second (below Venezuela), with coffee responsible for 77 per cent, petroleum 13 per cent and bananas 5 per cent of all exports. The three commodities together accounted for 95 per cent of all Colombian exports in 1957.[5]

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[4]Departamento Administrativo Nacional de Estadística, Anuario de Comercio Exterior (Annual editions, 1959, 1960) (Bogotá: Multilith Estadinal, 1960, 1961).

[5]Joseph D. Cappock, International Economic Instability (New York: McGraw-Hill, 1962), pp. 98-102.

This situation was remarkably similar to the period 1925-29 when the three most important exports were the same as those of 1957, and the percentage contribution of each commodity to total export value was: 70.9 per cent, 14.2 per cent, and 6.1 per cent.[6]

In summary, the basic sources of national income were gradually being "disassociated from the external sector, which little by little lost some of its importance as a motive force in Colombia's economy."[7] When exports accounted for more than 30 per cent of the gross product in Colombia (1937) the most important expansionist factor in the internal economy was the external sector. But the relative importance of exports has greatly diminished since the inter-war period, due to the greater relative growth of production for domestic consumption.[8]

The growth of production for home consumption was accomplished by progressing industrialization, a second outstanding feature of the Colombian economy. In addition to legislation for tariff protection, special foreign exchange regulations, and general encouragement by government, industry largely escaped the impact of the social and political unrest that adversely affected agricultural production and other rural economic activities. On the contrary, migration from rural

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[6]United Nations, Analyses and Projections..., p. 32.

[7]Economic Commission for Latin America, "Colombia's Economic Policy in a Year of Balance of Payments Disequilibrium," Economic Bulletin for Latin America, I (January, 1956), 54.

[8]Ibid., 57.

to urban areas gave industry the two-fold impetus of a larger available labor force and a rising demand for manufactured goods.[9]

However, the failure of the economy to diversify its export sector was to have notable effects on the growth rate and continuing industrialization of the internal sector. These effects, propitiated by the progressive decline in the New York coffee price beginning in the latter half of 1954, began to expert appreciable deflationary tendencies in the internal sector by 1956.

The accelerated growth prior to 1956 was accompanied (until mid-1954) by a rising purchasing power of exports as a consequence of a favorable trend in the terms of trade.[10] This trend permitted the rapid and persistent expansion of imports of capital goods required to sustain an investment coefficient between 20 and 25 per cent of available goods and services during the period 1945-54.[11] But with the reversal of the trend in the terms of trade, resulting from the combination of a declining price for coffee in the United States market and Colombia's excessive reliance upon this commodity for export earnings, the capacity to import drastically declined from the level attained in 1954.

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[9]United Nations, Economic Commission for Latin America, Economic Survey of Latin America: 1954 (E/CN.12/362/Rev. 1, July, 1955) (New York, 1955), p. 154.

[10]Economic Commission for Latin America, "Colombia's Economic Policy...," 56.

[11]United Nations, Economic Commission for Latin America, Economic Survey of Latin America: 1955 (E/CN.12/421/Rev. 1, May, 1956) (New York, 1956), p. 15.

The declining capacity to import after 1954 contrasted with a general fiscal and monetary policy directed at maintaining domestic aggregate demand. The latter had the natural effect of maintaining and even stimulating pressures in favor of imported consumption and investment goods. The intractability of imports in the face of the declining capacity to import was largely responsible for the balance of payments crisis which plagued Colombia in 1955 and 1956.

2-4 Economic Policies to Mid-1954

In the remainder of this chapter we shall examine some of the most significant monetary and fiscal policies operative in Colombia between 1950 and 1960 which contributed to the growth of income and to the pattern of structural change. We shall center our attention on the effects which these policies had on the main sectors of the economy -- consumption and investment expenditures and the foreign balance of trade.

To some extent the policies by which monetary and fiscal authorities influenced aggregate expenditures between 1950 and 1960 were inconsistent and contradictory. This was especially true during 1953 and 1954, the great boom years for coffee exports, when Colombian coffee generated unprecedented export earnings.

On the one hand there was a partial anti-inflationary policy instituted by the Banco de la República. This took the form of increasing required cash reserves during the period 1952-1954, shortening the term for rediscounts, and implementing general credit restrictions.[12]

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[12]United Nations, Economic Survey of Latin America: 1954, p. 154.

These restrictive measures were supplemented by a moderately compensatory policy vis-à-vis incomes earned from the export of coffee. It had been official policy since the devaluation of 1951 to require the surrender of foreign exchange earned through coffee exports (i.e., United States dollars) to the Colombian exchange authorities. This foreign exchange was then converted into pesos at an effective rate lower than any of the other three principal buying rates,[13] resulting in a discriminatory (and compensatory) effective exchange rate.[14]

During the first half of 1954, when coffee incomes rose to their highest level, the government imposed further measures on this form of income designed to absorb some of the rising inflationary potential. These measures were two-fold. First the official surrender price for coffee exports was increased four times between January and July, 1954 (from US $86.50 per 70 kilogram bag to a high of US $128

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[13] International Monetary Fund, Third Annual and Fourth Annual Report: Exchange Restrictions (Washington: International Monetary Fund, 1952, 1953).

[14] The original provision, promulgated on March 20, 1951, following the official devaluation of the peso from PS. $1.95 = US $1 to PS. $2.50, allowed 25 per cent of the exchange proceeds from coffee exports to be converted at PS $2.50 and the balance of these earnings at PS. $1.95. On October 29 of the same year this regulation was altered so as to permit 40 per cent of coffee earnings to be converted at PS. $2.50 and provision was made for this percentage to be increased progressively by 1½ per cent each month until the PS. $2.50 rate became applicable to the total proceeds (International Monetary Fund, Third Annual Report..., p. 71). See below, Table 2-11, Column (5) for the effective coffee exchange rate in pesos per dollar prevailing from 1952 to 1958.

per bag). Against the dollar surrender value the discriminatory coffee exchange rate was applied.

Second, on March 31 of 1954 a coffee export tax of 50 per cent was established on the difference between the official surrender price per bag and a base price equivalent to US $105 per bag (later raised to US $115). However, it could be argued that the special tax was imposed too late because the peak dollar price for coffee had already been reached during the month of March.

These policies -- freezing the coffee exchange rate, manipulating the surrender value, and varying the special tax -- all were designed to dampen the full inflationary impact of the rapidly climbing New York price for coffee. Yet the coffee policy was partially self-defeating and not nearly as financially restrictive as it appeared.

Part of the proceeds of the "coffee differential" and special coffee tax accrued to the Fondo Nacional del Café (National Coffee Fund). (The Fund received all of the proceeds from the special coffee tax in 1954.) The Fund was required, in turn, to deposit 85 per cent of its receipts in the Banco Cafetero. These parts of coffee income were, therefore, not by any means frozen; they helped to finance rural investment as well as the accumulation of coffee inventories in the crop year 1954/55.[15]

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[15]United Nations, Economic Commission for Latin America, Economic Survey of Latin America: 1957 (E/CN.12/489/Rev. 1, 1959) (New York, 1959), p. 159.

Also during this period of time a fiscal policy of budgetary deficit was partially negating the restrictive policies. In both 1953 and 1954 the national government ran a budgetary deficit, with that of 1954 exceeding by more than three times the deficit of the preceding year.[16] These deficits were financed by the Banco de la República, thus contributing to the increase of money in circulation. In fact, there was a persistent and rapid expansion of the money supply during every year of this period, except 1951.[17] The expanding money supply, of course, had the natural effect of stimulating internal purchasing power and aggregate demand.

In addition to the inconsistent nature of these monetary and fiscal policies relative to total demand, these policies also had an effect on the distribution of aggregate demand between consumption and investment. The special treatment of coffee income tended to reduce consumption demand (by the coffee growers and exporters) and to stimulate investment demand through the activities of the Banco Cafetero. Similarly, the budget deficits incurred during this period did not serve to increase "government consumption," but rather provided a means of financing government and quasi-public investment programs. The result of the changed structure of aggregate demand is reflected in Table 2-10. As a share of Gross National Product at market prices,

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[16]The Colombian national government incurred a deficit of 30 million pesos in 1953 and 109 million in 1954. The latter deficit was approximately 10 per cent of all national government expenditure [see, International Monetary Fund, International Financial Statistics, (1953-1955)].

[17]See Chapter III.

TABLE 2-10

PERCENTAGE COMPOSITION OF GROSS NATIONAL PRODUCT AT MARKET PRICES, MEASURED IN CONSTANT PESOS OF 1958, BY ECONOMIC SECTOR, 1950-1960[a]
(in per cent)

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Private Consumption	74.1	73.9	74.0	72.0	70.8	73.3	71.8	73.2	74.7	74.5	76.4
Consumption by Government	5.7	6.4	6.4	7.0	6.6	6.8	6.3	5.6	5.9	5.6	6.0
Gross Capital Formation	18.4	18.2	18.4	22.9	24.0	25.3	23.0	17.2	16.5	16.6	18.8
Increase in Inventories	3.0	2.1	1.8	-1.3	-.1	-.1	1.2	4.7	2.6	2.2	2.4
Surplus of the Nation on Current Account[b]	-1.2	-.6	-.6	-.6	-1.3	-5.3	-2.3	-.7	.3	1.1	-3.6
Gross National Product at Market Prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Source: "Cuentas Nacionales, 1950-1961" (Departamento de Investigaciones Económicas, Banco de la República), p. 13. (Mimeographed.)

[b] The sum of Exports of Goods and Services plus the "terms of trade effect" minus the sum of Imports of Goods and Services plus "Net Income of Factors of Production Received From the Rest of the World."

private consumption reached its lowest level -- 70.8 per cent -- in 1954, while investment expenditures were notably rising.

2-5 Economic Policies after Mid-1954

The coffee boom, however, began to subside by late Spring of 1954, and the level of coffee export earnings (in dollar terms) declined. As a result, during the second half of 1954 the Colombian government began to initiate a series of fiscal and monetary policies designed to maintain the internal purchasing power of the coffee sector and to nautralize, by means of credit and public expenditures, the deflationary effects of declining export earnings.[18]

Two particular policies were appropriately reversed after the decline in coffee earnings began in 1954. These policies were the countercyclical management of coffee incomes and the import restrictions placed on consumption imports.

The total value of current imports had begun to rise precipitously by 1953 in response to rising export earnings. By February, 1954 the government eliminated the prohibited list of imports. A large percentage of the increased imports during the 1953-54 period were durable and semi-durable consumption goods, a fact that some Colombian economists felt was an undesirable use of foreign exchange.[19] However,

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[18]Economic Commission for Latin America, "Colombia's Economic Policy...," 58.

[19]cf. Dulcy Garcés Molina, Memoría, Primer Congreso Nacional de Economistas, Document No. 20: Proceso Historico del Problema Cambiario en Colombia (Bogotá: Sociedad Colombiana de Economistas, 1958), pp. 5-6.

the apparent official intention was to absorb part of the rising coffee incomes, so as to reduce internal inflationary pressures.

As the coffee market changed in the course of 1954 the volume of imports grew menacing, and it became official policy to inhibit them. The new restrictions initiated in late 1954 were measures adopted primarily to reduce imports of luxury and other consumption imports. Investment imports were largely uneffected.

Thus, the effect of the new exchange regulations was to divert an increasing share of total consumption demand into the domestic market. The diversion of this consumption demand naturally served to stimulate domestic demand for investment goods. This fact, plus the special treatment allowed investment goods imports in the foreign exchange market, tended to maintain the higher relative importance of investment as a percentage of Gross National Product.

Countercyclical management of coffee income required a reversal of the existing policy after mid-1954. Initial government action took the form of reducing the coffee surrender price and temporarily eliminating the special 50 per cent export tax on coffee. This took place in mid-October, 1954.[20] More direct action followed in February, 1955, when the "coffee differential" was entirely eliminated. This meant that the PS $2.50 rate of exchange thereafter applied to all coffee exports.

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[20]International Monetary Fund, Sixth Annual Report: Exchange Restrictions (Washington: International Monetary Fund, 1955), p. 98.

(The 1955 exchange regulations also created a broad free exchange market where foreign exchange earnings on most exports -- not including coffee -- could be converted at a rate higher than that prevailing in the official market. The creation of this new rate -- the "fluctuating free market rate" -- was virtually equivalent to a devaluation. By December 31, 1955 the official buying rate for dollars, which applied to exports of coffee, petroleum and a few other goods, was still PS $2.50, while the fluctuating free rate had depreciated to PS $4.15.)[21]

The actual level of income generated in the coffee sector, which is one of the most important sectors in the Colombian economy, is significantly dependent upon the effective coffee exchange rate, as well as world market coffee prices and the volume of exports. Table 2-11 illustrates the determination of this income.

As a result of the elimination of the "coffee differential" in 1955, the average effective coffee exchange rate for the year was higher than in 1954. This increase in the effective exchange rate largely balanced the effect of the decline in dollar export values, and the peso value of legal exports of coffee showed only a small decline in 1955.

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[21] International Monetary Fund, Seventh Annual Report: Exchange Restrictions (Washington: International Monetary Fund, 1956), p. 83.

TABLE 2-11

FACTORS INFLUENCING THE PESO VALUE OF COFFEE EXPORTS AND THE INTERNAL INCOME OF THE COFFEE SECTOR, 1952-1958[a]

Year	New York Market Price (Manizales, cents per pound (1)	Dollar Export Price (F.O.B., Dollars per 70 kg. Bag) (2)	Volume Exported (Millions of 70 kg. Bags) (3)	Hypothetical Export Value (Millions of Dollars) (4)	Effective Exchange Rate (Pesos per Dollars) (5)
1952	57	83	4.3	360	2.24
1953	60	89	5.7	504	2.34
1954	80	120	4.9	590	2.27
1955	64	96	5.0	484	2.45
1956	74	109	4.3	475	2.84
1957	64	93	4.1	385	3.61
1958	53	76	4.71	356	4.87

[a]Columns (1), (2), (5) and (6) are annual averages. Sources: United Nations, Economic Commission for Latim America, Economic Survey of Latin America: 1957 (E/CN.12/489/Rev. 1, 1959) (New York, 1959) p. 155; and, Economic Survey of Latin America: 1958 (E/CN.12/489/Rev. 1, 1959) (Mexico, 1959), p. 121.

[b]n.a. = not available.

TABLE 2-11 -- Extension

Estimated Export Price (F.O.B., Pesos per 70 kg. Bag) ((2) x (5)) (6)	Estimated Export Value (Millions of Pesos) ((3) x (6)) (7)	Rough Allowance for Investment in Inventories and Contraband (Millions of Pesos) (8)	Total Income of Coffee Sector (Millions of Pesos) (9)
186	800	+150	950
207	1175	-150	1025
273	1350	+150	1500
234	1175	-50	1125
319	1350	+250	1600
337	1400	+550	1950
371	1717	n.a.[b]	n.a.[b]

This year also marked the beginning of large scale illegal coffee exports because of the rise in the "free market" exchange rate. With the 'free market" rate over PS $4.00 while the official rate, applicable to legal exports of coffee, remained pegged at PS $2.50, it became increasingly profitable to avoid the surrender of United States dollars at the official rate.[22]

The Colombian government continued to maintain the purchasing power of the coffee sector of the economy throughout the balance of the decade. This is clearly reflected in the rising effective exchange rates applicable to coffee export income. The continuous rise in this rate was effected not only through adjustment in the official exchange rate itself, but also by the permanent elimination of the special coffee tax and by adjusting the coffee surrender price to the fluctuations in world coffee prices.

In response to a temporary strengthening of the world coffee market in 1956 the surrender price was slightly raised from the low level it had reached during 1955. However, a small percentage of the surrender value was now allowed to be converted into pesos at a rate higher than the official rate of PS $2.50.[23] Therefore, the restrictive effects of the increased surrender price were negated and the effective exchange rate for coffee exports continued to rise.

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[22]United Nations, Economic Survey of Latin America: 1957, p. 156.

[23]International Monetary Fund, Eighth Annual Report: Exchange Restrictions (Washington: International Monetary Fund, 1957), p. 88.

During the following years, world coffee prices continued to weaken, the coffee surrender price was regularly lowered: once in 1957, four times in 1958, and once in 1959.

The Federación Nacional de Cafeteros (National Federation of Coffee Producers), a semi-official organization, lent further support towards maintaining coffee incomes. The Federation initially began to support internal coffee prices in the latter part of 1954 by buying from domestic coffee producers at quotations based on the previous high export prices.

The Federation made heavier purchases in the domestic market during the first half of 1955, when there was a strong contraction of coffee exports, drawing upon the Fondo Nacional del Café, which it administers, and on credit from the Banco de la República. During the latter half of 1955, however, a considerable proportion of the legal coffee exports came out of the Federation's inventories, so that the peso incomes actually reaching the coffee growers and producers was not notably higher in 1955 than in 1952 or 1953.[24]

The Federation continued to support the coffee market and to maintain the internal purchasing power of the coffee sector in 1957. Continuous support of the coffee market by inventory purchases became impractical, however, by 1958. During that year a new coffee policy was adopted under which exporters of coffee were required to deliver to the National Federation of Coffee Growers, without compensation,

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[24] United Nations, Economic Survey of Latin America: 1957, p. 156.

a quantity of coffee equivalent to 15 per cent of excelso coffee intended for export.[25]

This new policy was not apparently designed to reduce the purchasing power of the domestic coffee sector because, at the same time that the new tax in kind was instituted, the minimum surrender price for coffee exports was also reduced. Furthermore, the minimum surrender price was subsequently reduced three more times during the same year.

When New York coffee prices began to recede in mid-1954 and dollar export earnings began to decline, the Colombian government, as we have seen, initiated a series of counter-deflationary policies designed to maintain domestic income at a high level. In some cases, however, the inflationary policies appropriate after mid-1954 were already in existence prior to the middle of that year (at which time they were contrary to deflationary needs of the time).

Monetary expansion had been very rapid prior to mid-1954. It continued through the balance of the year, through 1955, and throughout the remainder of the decade without interruption. However, the rate of growth of the money supply in the post-1954 period never again attained the rate of expansion achieved from 1951 to 1954. Further discussion of the money supply and monetary policy will be postponed until the following chapter.

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[25] International Monetary Fund, Tenth Annual Report: Exchange Restrictions (Washington: International Monetary Fund, 1959), p. 92.

Fiscal policy had also been expansionary prior to mid-1954 and budget deficits had occurred in both 1953 and 1954. This policy was continued and intensified in the two years after 1954. In fact, the size of the budget deficit increased with each year from 1953 to 1956.

The budget deficits of these four years are significant, however, for reasons aside from their absolute size. In addition to any official considerations stemming from the desire to maintain private domestic purchasing power, these deficits should be viewed in the context of a general and longstanding policy of industrialization. The expenditure pattern which underlay the budgetary deficits during these years dictates this conclusion.

From 1953 to 1960 government expenditures were increasingly dominated by investment in fixed capital goods and public works. This is reflected in the allocation of total expenditures by government ministries. During the years of deficit, 1953 to 1956, the entire increase in total expenditures by the national government was absorbed by two ministries -- the Ministry of Development and the Ministry of Public Works.[26] (Expenditures by the latter ministry rose by three hundred per cent from 1952 to 1956, at which time they accounted for approximately one-third of all government expenditures.) Even though the national budget again showed a surplus in 1957, 1958 and 1959, the Ministries of Development and of Public Works continued to absorb a

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[26]Departamento Administrativo Nacional de Estadística, Anuario General de Estadística, Colombia, (Annual editions, 1952 to 1960) (Bogotá: Multilith Estadinal, 1954-1962).

higher percentage of total expenditures than in the years prior to 1953. Investment expenditures remained high through the balance of the decade.

The emphasis on direct public investment by the national government was parallelled by its' encouragement of private investment. This policy, as has already been noted, was implemented primarily through special treatment of capital and investment goods imports in the foreign exchange market.

We have seen that restrictions on the free importation of luxury and consumption goods were implemented shortly after the reversal of the coffee export market in mid-1954. As a result, the composition of Colombia's imports began to radically shift in favor of investmentt and capital goods, especially in 1955 and 1956.

These variations in the structure of imports, together with other measures to stimulate private investment, the generally expansionist monetary and fiscal policies described above, and the growing volume of direct government investment, contributed greatly to the maintenance of the high volume of investment characteristic of the years 1953 to 1956. The relative success of these measures is reflected in the sharp increase in gross capital formation as a percentage of Gross National Product between 1953 and 1956 (see Table 2-10).

2-6 Economic Policies and the Balance of Payments

However, a further consequence of these policies was less encouraging. The high rate of public expenditures and investment,

compensatory treatment of coffee incomes, special exchange provisions for capital goods imports, and inflationary monetary and fiscal policies in general had, since 1954, tended to counteract the deflationary influence of external conditions. As a result there was continued pressure on the demand for imports long after the decline in Colombia's capacity to import.

As a result, 1953 to 1956 were years of deficit in the balance of payments, as well as of deficit in the national budget. We have seen that a generally lenient policy towards all imports prevailed in 1953 and the first half of 1954, designed to reduce domestic inflationary pressures. The large deficits which occurred after mid-1954 to 1956 were "essentially due to the fact that imports did not decline for over two years after the coffee boom began to subside in 1954."[27]

In Colombia movements of gold and foreign exchange reserves have been the traditional method of covering such negative balances. However, by 1956 these reserves, largely utilized to cover the deficit in 1955, fell too low to continue financing the deficit. As an alternative, trade debts were accumulated. By the end of 1956 trade arrears totaled over US $200 million, representing US $60 million more than the country's aggregate gold and foreign exchange holdings.[28]

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[27]United Nations, Economic Survey of Latin America: 1957, p. 151.

[28]United Nations, Economic Commission for Latin America, Economic Survey of Latin America: 1956 (E/CN.12/427/Rev. 1, 1957) (New York, 1957), pp. 42-44.

For these reasons, plus Colombia's faltering credit abroad and the depreciating value of its peso in the international money market, the government instituted a severe austerity program by the end of 1956. Consequently the value of investment purchases from abroad began to decline in the second half of 1957, the rate of capital formation in the economy slackened, and the rate of real growth began to decline.

2-7 Conclusion

In this chapter we have attempted to demonstrate and examine the fact of continuing structural change and industrialization in Colombia during the decade of the 1950's. For that reason, it was necessary to explore some of the most important economic policies which affected the demand for consumption goods and the demand for investment goods. The analysis of these two types of demand will form the basis of our discussion of the investment-demand and savings supply schedules in Chapter VI.

The growth of income, both real and monetary, was necessarily affected and, to some degree, shaped by the degree of monetary expansion and the monetary and credit policies which prevailed in Colombia during the decade under study. The following two chapters will attempt to describe and analyze this expansion and some of the most important financial policies of the period.

CHAPTER III

THE SUPPLY OF MONEY

3-1 Types of Banking Institutions and Bank Deposits

Several types of "banking institutions," in the broadest sense, existed in Colombia during the decade of the fifties. These institutions may be grouped into four general categories: Colombia's central bank, the Banco de la República; the commercial banks, both national and foreign; the savings banks, strictly limited in their operations to the accumulation and subsequent investment of private savings accounts; and, the various specialized credit institutions, usually publicly-owned and semi-autonomous entities formed to meet the credit needs of those economic sectors not adequately served by the commercial banking system (e.g., agriculture, livestock, coffee).

The Banco de la República, organized under Law 25 of 1923, was granted a legal monopoly on banknote issuance.[1] The hand-to-hand money in circulation is composed almost exclusively of these banknotes. The remainder of the money in circulation is composed of small amounts of treasury money -- national banknotes, silver certificates, silver coins, and copper-nickel coins.

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[1]Ley 25 de 1923, in: Carlos Julio Angel (ed.), Legislación Bancaria Colombiana (Bogotá: Editorial Minerva, 1959), p. 12.

The total stock of money in circulation is the sum of all hand-to-hand money in circulation plus one or more of the various types of bank deposits which exist in Colombia. These types of deposits were originally defined in Law 45 of 1923, the companion-piece to the central bank legislation.

All types of bank deposits were divided, by Law 45, into three categories: term (depósitos a término); demand (depósitos exigibles); and, savings deposits (depósitos de ahorros). The first type of account was defined as a deposit withdrawable only after 31 days and upon which interest is paid to the depositor.

The second type, demand deposits, may be withdrawn within 30 days of deposit and is non-interest-bearing.[2] However, of great legal and economic importance is the subdivision of "demand deposits" in general into two categories. The most important of these is the sight (a la vista) or current account (cuenta corriente) deposit, which is virtually equivalent to what is commonly known as a checking deposit. The other type of demand deposit is the order (a la orden) deposit, which is not withdrawable by check but is freely available to the depositor at any time.

In some respects, savings deposits, the third type of deposit, are very similar to term deposits insofar as they are interest-bearing and, at the discretion of the Directors of the central bank, may not be withdrawn without prior notice. In fact, however, these similarities can be misleading because savings deposits are legally distinct from all other types of bank deposits in several important aspects.

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[2]Ley 45 de 1923, in: Angel, p. 23.

Originally, only chartered savings banks were able to maintain savings deposits. Prior to 1949 the Caja Colombiana de Ahorros, a government-owned autonomous institution, had a near monopoly on savings deposits. In 1950, however, commercial banks were permitted to open and expand special savings departments. The growth of savings accounts maintained in commercial banks during the 1950's was very rapid.

Whether deposited in the savings banks or in the special savings sections of the commercial banks, all funds accumulated in the form of savings accounts were required by law to be invested in certain specified documents. This mandatory investment has been almost entirely in governmental debt and in mortgage bonds, particularly in those of the government-owned Banco Central Hipotecario.

3-2 Alternative Money Supply Concepts

The multiplicity of the types of bank deposits in Colombia poses the very interesting question of which type or types of deposits to include, with the amount of hand-to-hand currency in circulation, in the computation of the stock of money.

The possibility exists that one or more of the relatively "inactive" types of bank deposits may displace the holding of checking deposits to satisfy the store-of-value function of money. The newly-created "inactive" deposits do not purchase any goods or services, but in satisfying the store-of-value function they do serve to diminish the demand for money used in exchange and, therefore, to increase the

velocity of circulation. "The liquidity preference demand for money that Keynes developed implies the existence of money assets that are not necessarily exchange media."[3]

In terms of the types of bank deposits which exist in Colombia, the problem is whether or not to include checking deposits only; checking plus order deposits; checking, order, term, and savings deposits. Table 3-1 summarizes the various possibilities in terms of four hypothetical stocks of money. Several relevant observations may be made on the data presented in this table. First is the obvious quantitative importance of money and bills outside banks plus checking deposits. That is to say, order, term, and savings deposits are all quite small relative to amounts of money, bills, and checking deposits outstanding.

Possibly of more significance, however, are the growth rates demonstrated by each hypothetical money stock. Table 3-1 indicates that the rates of growth of each money stock concept were greater the more inclusive the concept of the money stock. The rates of growth for all concepts were, however, remarkably similar. Undoubtedly, a great deal of this similarity may be accounted for by the quantitative dominance of one money stock: money, bills, and checking

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[3]Richard H. Timberlake, Jr. "The Stock of Money and Money Substitutes," The Southern Economic Journal, XXX (January, 1964), 253. Some preliminary research was done by the author to examine the possible inclusion of non-monetary financial assets (e.g., policy reserves of life insurance companies, government securities held by non-bank investors, etc.) in the stock of money. Unfortunately, it was discovered that data concerning these types of assets are either completely lacking or insufficient for the formation of any conclusions.

TABLE 3-1

FOUR ALTERNATIVE STOCKS OF MONEY, 1950-1960[a]

Year	1950	1951	1952	1953
Money and Bills Outside Banks Plus Checking Deposits of Public in all Banks in Millions of Pesos[b] (1)	970.7	959.1	1185.5	1363.9
Column (1) 1950 = 100 (2)	100.0	98.8	122.1	140.5
Column (1) plus Order Deposits in all Banks in Millions of Pesos[c] (3)	1074.2	1129.7	1312.8	1492.8
Column (3) 1950 = 100 (4)	100.0	105.2	122.2	139.0
Column (3) Plus Term Deposits in all Banks in Millions of Pesos[c] (5)	1118.5	1183.8	1378.4	1583.3
Column (5) 1950 = 100 (6)	100.0	105.8	123.2	141.6
Column (5) Plus Savings Deposits in all Banks in Millions of Pesos[c] (7)	1222.2	1303.0	1535.6	1772.3
Column (7) 1950 = 100 (8)	100.0	106.6	125.6	145.0

[a]Source: Revista del Banco de la República (1950-1961).

[b]Does not include Official Deposits in the Banco de la República or the check float. Annual averages of 12 months.

[c]Order, Term, and Savings Deposits are annual averages based on January, April, July, and October, equally weighted.

TABLE 3-1 -- Extension

1954	1955	1956	1957	1958	1959	1960
1664.4	1808.5	2131.7	2594.1	3024.5	3536.3	3786.1
171.5	186.3	219.6	267.2	311.6	364.3	390.0
1824.3	2051.2	2630.5	3099.4	3358.4	3884.5	4267.2
169.8	191.0	244.9	288.5	312.6	361.6	397.2
1948.2	2198.4	2832.1	3292.3	3512.2	4016.6	4480.3
174.2	196.5	253.2	294.3	314.0	359.1	400.6
2181.7	2487.2	3170.8	3692.2	3985.9	4564.9	5094.8
178.5	203.5	259.4	302.1	326.1	373.5	416.9

deposits. This helps to account for the fact that while the rates of growth of each money stock concept were very similar, the rates of growth of each type of deposit were not equally similar.

The growth of order deposits between 1950 and 1960 was highly uneven, being positive in five years, negative in two years, and without change in three years. Term deposits grew at a more even rate, at least until 1956. From that year until 1959 these deposits actually declined, but began to increase again in 1960. The most constant, and also the most rapid, rate of growth of all types of deposits was that of savings deposits. Undoubtedly, this was caused by the expansion of bank facilities legally permitted to accept this form of deposit. The rate of growth of checking deposits was, after 1951, almost parallel to the growth of savings accounts. The net increases in the amounts maintained in each type of deposit between 1950 and 1960 were as follows: for checking accounts, 384 per cent; order deposits, 365 per cent; term deposits, 381 per cent; and, for savings deposits 493 per cent.

Clearly, the overall growth rates of each type of deposit were far more similar than were the year-to-year changes in these accounts.

3-3 The Money Supply

On balance, it appears that very little would be lost or gained by the inclusion of order, term, or savings deposits in the stock of money. Therefore, we shall restrict our attention in the remainder

of this study to the orthodox definition of the stock of money: money and bills outside banks plus the total checking deposits of the public in all banks.

Table 3-2 illustrates in a more detailed manner the growth of the stock of money between 1950 and 1960. This table, computed on the basis of the stock of money at the end of each year, shows that the rate of increase of checking deposits exceeded the rate of growth of currency expansion during the years 1950 to 1954, and that the amount of money and bills in circulation actually declined during 1950, the only year in which either component of the money stock did not increase.

During 1955 both currency and checking deposits grew at the same rate, but in 1956 and 1957 the rate of increase of the former exceeded that of the latter, the reverse of the situation between 1950 and 1954. The last three years of the period under study saw both currency and checking deposits expanding at approximately the same rate. The increase in each component of the money supply from the beginning of 1950 to the end of 1960 -- 478 per cent for checking deposits and 230 per cent for money and bills outside banks -- reflects the greater number of years in which checking deposits increased more rapidly than did currency in circulation.

3-4 The Determinants of the Money Supply

A more interesting and meaningful discussion of the rapid expansion of the money supply in Colombia may be achieved through an

TABLE 3-2

COMPOSITION OF THE MONEY STOCK AT END OF YEAR,
1949 - 1960[a]
(in millions of pesos)

Year	Treasury Currency (1)	Bills of the Banco de la Republica in Circulation (2)	Total Money and Bills in Circulation (3)	Vault Cash in the Banco de la Republica (4)	Vault Cash in other Banks (5)
1949	36.3	476.3	512.6	7.2	18.7
1950	36.8	463.2	500.0	7.0	21.3
1951	28.0	522.5	550.5	8.0	27.5
1952	29.3	609.7	639.0	6.4	27.3
1953	31.4	688.1	719.5	6.3	40.9
1954	33.7	780.1	813.8	5.6	55.6
1955	35.7	799.7	835.4	5.7	54.7
1956	38.1	964.3	1002.4	5.4	64.4
1957	43.6	1202.8	1246.4	4.9	75.4
1958	54.2	1405.2	1459.4	6.3	92.6
1959	64.2	1540.6	1604.8	7.0	112.3
1960	63.0	1661.5	1724.5	8.6	110.0

[a]Excluding Official Deposits in the Banco de la República and not adjusted for check float. Source: Banco de la República, XXXVIII Y XXXIX Informe Anual del Gerente a la Junta Directiva, Segunda Parte (Bogotá: Talleres Gráficos, 1963), pp. 128-131.

TABLE 3-2 -- Extension

Vault Cash in all Banks (3) + (5) (6)	Total Money and Bills outside Banks (3) + (6) (7)	Checking Deposits of Public in the Banco de la Republica (8)	Checking Deposits of Public in Other Banks (9)	Total Checking Deposits of Public in all Banks (8) + (9) (10)	Money Supply (7) + (10) (11)
25.9	486.7	3.8	428.0	431.8	918.5
28.3	471.6	6.3	498.6	504.9	976.5
35.5	515.0	1.1	606.7	607.8	1122.8
33.7	605.4	1.4	707.7	709.1	1314.5
47.2	672.3	20.0	856.4	876.4	1548.7
61.2	752.6	1.5	1092.6	1094.1	1846.7
60.4	775.0	3.0	1155.7	1158.7	1933.7
69.8	932.5	7.9	1474.9	1482.8	2415.3
80.3	1166.1	1.4	1577.0	1578.4	2744.5
98.9	1360.5	2.1	1955.5	1957.6	3318.1
119.3	1485.5	7.6	2222.1	2229.7	3715.2
118.6	1605.8	4.7	2492.1	2496.8	4102.6

examination of the relative quantitative importance of the most significant determinants of the money supply. These determinants were (1) the level of international reserves; (2) the amount of Treasury currency in circulation; (3) the "net effect of the Banco de la República," the Colombian central bank; and (4) the "net effect of other banking institutions." "Other banking institutions" include all commercial banks, both foreign and national; the Banco Cafetero; the Banco Ganadero; the Caja de Crédito Agrario, Industrial Minera; the Caja Colombiana de Ahorros prior to its absorption by the Caja Agraria in November, 1955; the Banco Prendario Nacional prior to December, 1957 at which time it was absorbed by the Banco Popular; the Banco Popular; and the various small, privately-owned savings banks.

In the case of the latter two categories -- "net effect of the Banco de la República" and "net effect of other banking institutions" -- "net effect" has been defined as the sum of credit plus other assets minus non-monetary liabilities. Credit, other assets, and non-monetary liabilities were determined by a compilation of the relevant balance sheet items of the Banco de la República and of the other banking institutions mentioned above.[4]

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[4]See APPENDIX C. This method of arriving at the determinants of the money supply closely parallels a similar analysis of the Colombian money stock during 1960, 1961 and the first part of 1962, in: Jorge Ruiz Lara and Martha Fernandez R., La Expansíon Monetaria de 1960 a Marzo de 1962 ("Centro de Estudios Sobre Desarrollo Económico," Monografía No. 15; Bogotá: Universidad de Los Andes, 1962), pp. 1-5 and 34-37.

It can be seen that the supply of money in circulation can be closely approximated, as in Table 3-3, by aggregating the four major determinants of the money supply. Table 3-4 presents the same data as that contained in Table 3-3, with the data converted into the form of index numbers.

It will be useful to summarize the most significant characteristics of these determinants of the Colombian money supply as an introduction to the discussion in Chapter IV of money and credit policies from 1950 to 1960.

Excluding Treasury currency, which was not influenced by fluctuations in the level of international reserves or by the volume of credit, the remaining three categories reflect the sources of monetary expansion. Of these three groupings, one is related to the external sector -- international reserves -- and two reflect the internal sources of the growth of the money supply.

As indicated in Tables 3-3 and 3-4, there was no decrease in the total money supply in 1950 corresponding to the decline in international reserves during that year. During the following four years both the level of international reserves and the total money supply grew rapidly. However, it is significant that the rate of increase of the former exceeded that of the latter, an indication that the official policy designed to dampen the inflationary effects of rising coffee export prices met with some degree of success.

During 1955 the slight decline in the total supply of money was largely due to the declining level of international reserves,

TABLE 3-3

THE DETERMINANTS OF THE MONEY SUPPLY
ON DECEMBER 31, 1949-1960[a]
(in millions of pesos)

Year	1949	1950	1951	1952	1953
International Reserves	233.0	206.2	257.1	326.0	395.0
Net Effect, Banco de la República	258.8	227.6	260.1	284.6	249.0
Credit	302.6	282.1	239.1	342.4	322.4
Other Assets	126.7	135.4	204.0	143.1	145.9
Non-Monetary Liabilities	170.5	189.9	183.0	200.9	219.3
Net Effect, Other Banking Institutions	402.1	574.7	588.3	802.7	963.5
Credit	762.8	967.8	1124.4	1379.2	1622.0
Other Assets	156.1	226.6	239.7	263.2	290.0
Non-Monetary Liabilities	516.8	619.7	775.8	839.7	948.5
Treasury Currency	36.3	36.8	28.0	29.3	31.4
Total Money Supply	930.2	1045.3	1133.5	1442.6	1638.9

[a]Source: APPENDIX C.

TABLE 3-3 -- Extension

1954	1955	1956	1957	1958	1959	1960
525.7	297.5	360.3	389.4	425.8	560.9	423.6
345.2	316.4	382.1	395.4	709.7	735.3	855.9
506.4	571.5	761.9	1446.2	1794.2	1746.7	1736.5
158.3	157.5	202.5	386.4	516.1	785.6	896.9
319.5	412.6	582.3	1437.2	1600.6	1797.0	1777.5
1160.9	1386.9	3292.2	3432.3	3757.0	4282.7	5083.5
2155.7	2562.4	2372.7	2456.4	2690.7	3031.4	3606.6
528.4	600.2	987.5	1231.9	1122.5	1116.7	1241.1
1523.2	1775.7	2504.5	2592.8	2548.5	2853.8	3355.2
33.7	35.7	38.1	43.6	54.2	64.2	63.0
2065.5	2036.5	2555.7	2899.8	3220.7	3906.0	4311.9

TABLE 3-4

THE DETERMINANTS OF THE MONEY SUPPLY,
ON DECEMBER 31, 1949-1960[a]
(1949=100)

Year	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
International Reserves	100.0	88.5	110.3	139.9	169.5	225.6	127.7	154.6	167.1	182.7	240.7	181.8
Net Effect, Banco de la República	100.0	87.9	100.5	110.0	96.2	133.4	122.3	147.6	152.8	274.2	284.1	330.7
Credit	100.0	93.2	79.0	113.2	106.5	167.3	188.9	251.8	477.9	592.9	577.2	573.9
Other Assets	100.0	106.9	161.0	112.9	115.2	124.9	124.3	159.8	305.0	407.3	620.0	707.9
Non-Monetary Liabilities	100.0	111.4	107.3	117.8	128.6	187.4	242.0	341.5	842.9	938.8	1054.0	1042.5
Net Effect, Other Banking Institutions	100.0	142.9	146.3	199.6	239.6	288.7	344.9	441.5	515.1	579.7	633.1	738.5
Credit	100.0	126.9	147.4	180.8	212.6	282.6	335.9	431.6	450.0	492.5	561.4	666.4
Other Assets	100.0	145.2	153.6	168.6	185.8	338.5	384.5	632.6	789.2	719.1	715.4	795.1
Non-Monetary Liabilities	100.0	119.9	150.1	162.5	183.5	294.7	343.6	484.6	501.7	493.1	552.2	649.2
Treasury Currency	100.0	101.4	77.1	80.7	86.5	92.8	98.3	105.0	120.1	149.3	176.9	173.6
Total Money Supply	100.0	112.4	121.9	155.1	176.2	222.0	218.9	274.7	311.7	378.5	419.9	463.5

[a]Calculated from Table 3-3.

although the net effect of the Banco de la República was moderately deflationary in this year also.

That year, however, was the last in which the level of international reserves decisively affected the growth of the money supply. From 1956 through 1960 the total supply of money was apparently only slightly influenced by the level of international reserves: the latter expanded more rapidly than the former in 1956, 1957 and 1958. In 1959 there was a sharp increase in the level of international reserves but no noticeable change in the rate of growth of the total money supply from the preceding three years. Total money supply continued to grow at this same rate in 1960 although the level of international reserves fell sharply.

Thus, particularly in the years since 1955, we are able to see the monetary consequences of the government policies, discussed in the previous chapter, which attempted to isolate the internal economy from fluctuations occurring in the external sector.

The direction of change of the net effect of the Banco de la República closely parallels the direction of change in the level of international reserves from the end of 1949 through 1959. Nineteen fifty three was the only notable exception to this rule, when the level of international reserves was rising rapidly while the net effect of the Banco de la República was deflationary. This is illustrative of a significant difference between these two influences over the supply of money.

While it is true that the directions of change of the level of international reserves and of the net effect of the Banco de la República were generally the same until 1960, the rate of growth of the latter was considerably less than the rate of increase of the former from the end of 1950 to the end of 1954. The slower growth rate of the net effect of the Banco de la República was, apparently, in response to the official policy aimed at reducing the inflationary effects of the rising level of international reserves. This largely explains why the rate of growth of the total money supply during these years was less than the rate of increase of international reserves. (Unfortunately, the countercyclical policy influencing the Banco de la República did not extend to the other banking institutions. The net effect of these institutions was strongly expansionary during this period.)

During 1955 the rate of decrease in the net effect of the Banco de la República was considerably less than that demonstrated by the level of international reserves, a further countercyclical adjustment which helps to explain why total money supply contracted only slightly while the level of international reserves declined drastically.

Between 1958 and 1960 the net effect of the Banco de la República and the level of international reserves tended to become increasingly independent of each other. The former increased sharply in 1958 while the rate of increase of the latter was very moderate. In 1959 these trends were reversed. In 1960, for the first time since 1953, these

two monetary determinants moved in opposite directions: the level of international reserves declined sharply while the net effect of the Banco de la República increased at a rate exceeding that of 1959.

In 1956 and 1957 the total supply of money and the net effect of the Banco de la República increased at a very moderate rate. However, within the accounts of the Banco de la República an important new factor developed in 1957. During this year credit of the Banco de la República rose by almost 100 per cent. However, the net effect of the central bank increased by only 3.5 per cent. This was due to the fact that non-monetary liabilities grew 147 per cent.

The growth of non-monetary liabilities during this year was caused primarily by the increase in order deposits of juridical entities and other official entities. and other official deposits, which together rose from less than PS $21 million at the end of 1956 to over PS $366 million at the end of 1957. The hugh increase in these deposits was, in turn, apparently caused by the accumulation in the central bank of large amounts of cash deposits which were required as a prerequisite for the registration of imports.[5] (In 1957 these "prior cash deposits" were equal to 100 per cent of the peso value of the imported good.)

As shown in Table 3-5, central bank loans and discounts to the national government and other official entities varied between zero

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[5]The original purpose of the prior import deposit "has normally been to discourage imports by increasing their cost as importers are forced to obtain additional financing to make the deposits. But the system also has the effect of temporarily absorbing liquidity...." [Eugene A. Birnbaum and Moeen A. Qureshi, "Advance Deposit Requirements for Imports," International Monetary Fund Staff Papers, VIII (November, 1960), 116.]

TABLE 3-5

PERCENTAGE DISTRIBUTION OF BANCO DE LA REPÚBLICA LOANS AND DISCOUNTS, ACCORDING TO TYPE OF BORROWER, ON DECEMBER 31, 1949-1960[a]
(in per cent)

Year	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Banks[b]	71.1	81.9	78.5	65.6	85.9	62.3	79.8	73.0	47.4	40.5	41.2	47.9
Private Borrowers	8.9	15.5	20.2	29.3	14.1	31.3	9.4	10.7	30.0	39.8	38.9	35.1
National Government and Other Official Entities	20.0	2.6	1.3	5.1	-	6.4	10.8	16.3	22.6	19.7	19.9	17.0
Total Loans and Discounts	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Source: APPENDIX C.

[b] Including shareholding and non-shareholding banks.

and 22.6 per cent of all Banco de la República loans and discounts. On the other hand, central bank investment in documents of public debt absorbed between 38 per cent (in 1958) and 82 per cent (in 1953) of all Banco de la República credit. The years in which this type of investment accounted for the greatest share of all central bank credit, from 1953 to 1956, were also years of budgetary deficit. The rate of increase in investment in public debt was very uneven from 1950 to 1960, but the years of greatest increase were the same years in which this type of investment absorbed the greatest share of all central bank credit.

There was no marked expansionary consequence in the net effect of the Banco de la República during these years, however, with the exception of 1954, because of the fact that loans and discounts of the Banco de la República remained low. During 1957 these loans and discounts began to expand rapidly, mainly to private borrowers. As a consequence, investment in public debt began to decline as a percentage of all Banco de la República credit. There was no quantitative decline in this type of investment in 1957. As we have seen, the net effect of the Banco de la República was not notably expansionary during this year due to the sharp rise in non-monetary liabilities of the central bank.

The rate of increase exhibited by the net effect of other banking institutions between 1950 and 1960 was almost constant, as was the rate of growth of the total money supply. However, the former grew far more

rapidly than the latter, so that the net effect of other banking institutions came to progressively dominate, in a quantitative sense, the total money supply.

During the entire decade there was little or no correspondence between the net effect, credit, other assets or non-monetary liabilities of other banking institutions and the level of international reserves.

The net effect of other banking institutions was entirely responsible for the increase in the total supply of money in 1950, during which time both international reserves and the net effect of the Banco de la República were contracting. An expansionary net effect of other banking institutions also largely offset declining international reserves in 1955 and 1960.

Quantitatively, the amount of total loans extended by other banking institutions was the greatest expansionary factor contributing to the growth in the net effect of these institutions in 1950, 1955, and 1960. Also during these same three years the percentage of all central bank loans and discounts absorbed by other banking institutions sharply increased. Table 3-5 indicates that these loans and discounts rose from 71.1 per cent of all Banco de la República loans and discounts in 1949 to 81.9 per cent by the end of 1950, from 62.3 per cent in December, 1954, to 79.8 per cent at the end of 1955, and from 41.2 per cent in 1959 to 47.9 per cent in 1960.

The relationship between loans and credit extended by other banking institutions and the loan and discount operations of the

central bank is a significant factor to be considered in the following chapter.

This synopsis of the Colombian monetary expansion between 1950 and 1960 lays a suitable and necessary background for an examination of some of the salient features of the banking system in Colombia and for an analysis of the credit and monetary policies pursued during the decade.

CHAPTER IV

THE BANKING SYSTEM AND MONETARY AND CREDIT POLICIES

4-1 The Structure of the Banking System

We have seen that the Colombian banking system is essentially composed of four distinct types of institutions: the central bank, the commercial bank, the savings banks, and the specialized credit institutions. But perhaps the most striking feature of this system during the decade of the fifties was the multiplicity of official policies and legislative acts which regulated the financial institutions.

Moreover, these agencies, policies, and acts were often contradictory and incompatible with each other. This phenomenon is, in itself, not unusual and, for example, exists to some extent in the United States: "Legislation at one time will reflect predominantly a given point of view; at another, a quite different one. In the end, institutions and legislative regulations have emerged which are fundamently [sic] inconsistent."[1] An understanding of the operation of these inconsistent elements is basic to a grasp of the Colombian monetary and credit experiences during the 1950's.

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[1]Lloyd W. Mints, Monetary Policy for a Competitive Society (New York: McGraw-Hill, 1950), p. 183.

While the structure of the commercial banks is similar to that of the United Kingdom or Canada, the organization of the central bank and its relation to the commercial banks are modeled after the Federal Reserve System in the United States.[2] However, the growing importance of the specialized, semi-autonomous credit institutions appears to be essentially an indigeneous phenomenon.

In Colombia, the administration of public finances originates in the decisions of the Minister of Finances. This office wields final authority in the determination of the national budget, import and export policies, the flow of bank credit, the selection of investments, the capital market, and the policies of the financial institutions.[3]

Subordinate to the Minister of Finance is the Banco de la República, which administers his policy. This line of authority is insured by the fact that the Minister of Finance is a member of the Board of Directors of the central bank and possesses veto powers over the acts of this board.

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[2]International Bank for Reconstruction and Development, The Basis of a Development Program for Colombia (Washington: International Bank for Reconstruction and Development, 1950), p. 295. This publication is more popularly known as The Currie Report, after the head of the I.B.R.D. Mission.

[3]It has been alledged, however, that in actual practice the "Minister of Finance makes his final decisions through a system of provisional estimates designed to cleverly elude the multiple contradictory forces of the soliciting bodies that surround him." [Jorge Child, Memoría, Primer Congreso Nacional de Economistas: Organizacíon de las Finanzas Públicas (Bogotá: Sociedad Colombiana de Economistas, 1958), p. 1 .]

The contradictory aspects of the Colombian banking system, and the somewhat confused monetary and credit policies which resulted, may be viewed as the product of a hybrid banking philosophy which has attempted to blend three or four basically incompatible elements.

These key elements are, in the order in which they will be discussed: the gold exchange standard, an element of automaticity, or automatic control over the supply of money; the structure of the Board of Directors of the Banco de la República, exercising discretionary powers over the money supply and credit policies; the Banking Laws of 1923, reflecting the influence of the "real bills doctrine" and an element of supposed, but not actual automaticity; and the recent growth of specialized credit institutions, representing the fullest expression of official, selective control.

4-2 The Gold Exchange Standard

For many years previous to the period under study and throughout this period, the Colombian banking system has operated under the gold exchange standard. Adoption of the gold exchange standard, in the first instance, gives the central bank permission to hold foreign exchange instead of gold as legal reserves against its notes in circulation.[4] Thus, the Colombian central bank must maintain a minimum of 25 per cent in gold holdings (including its gold contribution to

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[4]United Nations, International Currency Experience (United Nations Series of League of Nations Publications,) United Nations, 1947, (first published in 1944: League of Nations, 1944. II. A. 4), p. 20.

the International Monetary Fund) and deposits in foreign banks as a reserve against its banknotes in circulation.

Such a system of international exchange and reserves represents an attempt to legislate an automatic control over the quantity of money in circulation in the domestic economy. The intention is to establish a direct relationship between circulating currency, the level of central bank reserves, and the balance of payments. With this done, discretionary influences over the supply of money are reduced to a minimum, and all but eliminated if the monetary authorities apply the so-called "rules of the game."

The data indicate that, from the end of 1949 to the end of 1954, the Banco de la República maintained actual reserves considerably above the required reserves of 25 per cent against its banknotes in circulation. In fact, these reserves never fell below 37 per cent during this period, and reached almost 57 per cent in 1954. Therefore, the central bank was in a position to freely expand the amount of circulating currency, if it so chose, between 1950 and 1954.

With the drastic decline in international reserves in 1955 the reserve requirement began to be felt as a restrictive factor on currency expansion. However, legislation was subsequently implemented to virtually eliminate the minimum legal reserve requirement as a restraining factor on banknote expansion.

This legislation actually included two separate acts. Initially, toward the end of 1956, the legal reserves of gold and foreign exchange were revalued from PS $1.95 to the U.S. dollar to PS $2.50, thus inflating the value of the reserve in terms of domestic pesos.

This action proved insufficient and, therefore, in 1957 special legislation was again passed. The 1957 legislation permitted the central bank to allow its legal reserve to decline below 25 per cent of its banknotes in circulation, "if necessary." The legislation was timely, for by May of 1958 the legal reserves of the Banco de la República had fallen to 23.38 per cent of its bills in circulation. Although rising somewhat in 1958 and 1959, the reserve ratio had declined to 21.74 per cent by December, 1960.[5]

Thus, the raison d' être of the gold exchange standard and the principle of central bank fractional reserves composed of foreign exchange was, to a large extent, subverted by the acts of 1956 and 1957. Clearly, these special emergency measures serve as strong evidence that, by the decade of the fifties, Colombian monetary policies had incorporated the principle of discretionary control. These policies were not to be deferred by the operation of those automatic forces inherent in a gold or gold exchange standard. Yet an awareness of this principle did not extend to the point of repealing the gold exchange standard, nor, apparently, to the contradiction which it posed to the principle of discretionary monetary policies.

4-3 Discretionary Powers and the Policies of the Central Bank

The Board of Directors, or Junta Directiva, of the Banco de la República has full authority over the policies and operations of the central bank. The Board consists of ten members: the Minister

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[5] Revista del Banco de la República, (1957-1961).

of Finance who, as previously mentioned, has veto powers over the actions taken by the Board; two directors appointed by the government; four directors elected by the national and foreign banks as shareholders of the central bank; one director named by the Agriculturalists' Society (Sociedades de Agricultores) and Livestock Associations (Asociaciones de Ganaderos); one director named by the Chamber of Commerce; and the director of the Federation of Coffee Growers.[6]

The Board of Directors, in its legal form and intent, is quite similar to the Board of Governors of the Federal Reserve System in the United States. Indeed, the Banco de la República itself was established as a direct result of the Kemmerer mission to Colombia in the early 1920's, and the "Kemmerer legislation" of 1923 was modeled after the Federal Reserve System of the United States. Thus, as is true in the United States, the governing board of the banking system represents the principle of discretionary powers.

During the period from 1950 to 1960 the two most significant discretionary powers wielded by the Board of Directors over the supply of money in circulation, i.e., the quantity of money, banknotes, and checking deposits, were its control over the discount policies and techniques of the central bank and its authority to vary the required cash reserves against specific types of bank deposits.

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[6]The Board membership, as prescribed in Decree 2051 of 2051 of 1951, consisted of only nine members. [Julio Angel (ed.), Legislación Bancaria Colombiana (Bogotá: Editorial Minerva, 1959), pp. 282-283]. This was subsequently changed to ten when the shareholding banks were allowed a fourth representative.

Discount policy may be defined as "the varying of the terms, and of the conditions in the broadest sense, under which the market may have temporary access to central bank credit through discounts of selected short-term assets or through secured advances."[7]

The discount rate itself has been characterized by two significant aspects: first, the low level at which it has been maintained and, secondly, the remarkable stability of the rate.

The intention of the central bank to maintain an artifically low discount rate is illustrated by its initial actions in 1923. At the time of the founding of the Banco de la República in that year the market rate of interest was fluctuating between 12 and 15 per cent. Accordingly, so as not to upset the financial market, the Bank instituted a discount rate of 12 per cent on commercial loan rediscounts, the only paper then eligible. Less than a year later the central bank had reduced this to 7 per cent, and by July, 1933 to 4 per cent.[8] This action was taken without regard to market forces, but was simply designed to provide cheap credit for short-term commercial operations.

A similar policy apparently still prevails. The ordinary commercial discount rate which existed during the 1950's was never lower than 4 per cent nor higher than 5 per cent, except for a short period

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[7] Peter G. Fousek, Foreign Central Banking: The Instruments of Monetary Policy (New York: Federal Reserve Bank of New York, 1957), p. 13.

[8] G. Botero de los Rios, "Breve Exegesis de las Funciones Monetarias del Banco de la República," Revista del Banco de la República, XXXVI (August, 1963), 1007.

during 1956 when a small percentage of these discounts were eligible at 3 per cent. As we shall see at a later point in this chapter, these rates do not seem to reflect the forces existing in the market.

As mentioned above, by July, 1933 the ordinary commercial discount rate had declined to 4 per cent. This rate was maintained without change until 1956. At that time an experiment was attempted which set a discount rate of 3 per cent on commercial loans granted by the banks at 5 per cent interest; a 4 per cent discount rate on 75 per cent of the discount quota of each individual bank; and, a rate of 5 per cent on the remainder of each bank's discount quota. In 1957 the special 3 per cent rate was eliminated, the discount rate of 5 per cent applied to 40 per cent of each bank's discount quota, and the remaining 60 per cent of the quota was eligible at 4 per cent. In 1959 this structure was simplified by discounting all eligible commercial loans at 5 per cent.

The ordinary commercial discount rate, however, was not the only discount rate which existed in Colombia during the period under study. As is common in many countries, Colombia maintained a structure of differential discount rates established on the basis of the different kinds of paper eligible for rediscount. In addition to the "basic" 90-day commercial loan rate, a 3 per cent rate existed throughout the fifties for loans made against agricultural products in bonded warehouses.

An additional rate of three and one half per cent was established in 1957 on paper representing medium-term loans (i.e., less than

150 days) for certain agriculture and cattle operations, extended in 1959 to include loans to industry. This rate however, applied only to loans made at 6 per cent, or less, interest.[9]

In 1958, discount loans were extended to cover an entirely different type of operation: long-term development loans to agriculture and cattle firms,[10] later extended to include some types of rural construction. The eligibility of these types of loans, ranging 1 to 5 years in maturity depending upon the use of the loan, marked a true exception to the rules under which the Banco de la República had operated since its founding in 1923.

We shall discuss these rules and the philosophy of the Banking Laws of 1923 more explicitly at a later point in this chapter. For the present it is only necessary to note that the eligibility of these long-term loans for discount at the central bank was an unprecedented action; the the discount rate which was applied was one point less than the ordinary commercial loan rate; and that the commercial banks were directly forbidden to charge more than 7 per cent interest on this type of loan. Due to the apparent reluctance of the commercial banks to grant this type of loan further legislation was enacted in 1959, which required all commercial banks to extend this type of credit equivalent to not less than 15 per cent of its demand and term deposits.[11]

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[9] Revista del Banco de la República, (1957-1961).

[10] Decreto Extraordinario 198 de 1957, in: Angel, p. 360.

[11] Ley 26 de 1959, in: Angel, p. 392.

This differential discount rate structure was, of course, a form of selective credit control. However, the most significant aspect of the discount rate techniques employed by the Directors of the Banco de la República has been the effect of the discount rate on the general level of interest rates in Colombia. Ordinary commercial loans, in order to be eligible for discount at the central bank, could not be made at more than 2 points above the existing discount rate. We have already seen that the commercial loan discount rates in effect during the period 1950 to 1960 were quite low in an absolute sense, either 4 or 5 per cent or, for a short time in 1956, 3 per cent. This meant, therefore, that eligible commercial loans could not be made at more than 5 to 7 per cent interest.

The other types of loans, eligible for preferential discount rates, were similarly controlled. As we have seen, 6 per cent was the maximum allowed for 150-day agriculture and cattle loans, while banks could charge no more than 7 per cent interest on the long-term development loans.

Since early 1952 the central bank has directly intervened to set maximum limits which banks were permitted to pay on eligible types of deposits. As we have seen in Chapter III, banks could pay interest on term and savings deposits only, and were specifically forbidden to pay interest on either type of demand deposit. These interest rates were also characterized by their rigidity -- once set in April of 1952, they remained unchanged for the balance of the decade -- and their abnormally low level. These rates of interest were structured according to the length of time which the deposit remained in the bank, rising

from an annual rate of 1 per cent for deposits remaining in the bank for a minimum of three months to a legal maximum of 4 per cent a year on deposits of over two years.[12]

It will be useful to compare the interest rates charged and paid by Colombian banking institutions with an estimation of the "market" interest rate, or the rate of interest which the market factors would tend to produce were they permitted to do so. Since no such interest rate actually existed in Colombia during the period under study, the "market" rate of interest may be imputed by calculating dividend yields in the stock market and estimated yields of Colombian bond issues. The results are shown in Tables 4-1 and 4-2. The bond yields shown in Table 4-1 clearly fall into two categories. Bonds of the public or quasi-public entities generally produced a lower yield than bonds of the private entities. Such low yields were made possible because only a relatively small part of these bond issues were held on a voluntary basis. If the various banking and financial institutions were not required by law to hold these bonds, undoubtedly yields would be much higher. The bond issues of the private entities and the Antioquia issue were not affected by these holding requirements. Therefore, the much higher yields of these bonds are fairly illustrative of the unregulated rate of interest in the bond market.

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[12]Acuerdo de 18 de Abril de 1952, in: Angel, p. 289.

TABLE 4-1

ESTIMATED YIELDS OF SELECTED COLOMBIAN BOND ISSUES, 1950-1960[a]
(in per cent)

	1950	1952	1954	1957	1958	1960
Public or Quasi-Public Entities[b]						
Antioquia 7% (1943/47)	13.40	13.70	13.10	14.40	14.50	
(1963/67)	12.25	12.30	11.80	13.30	13.60	N.Q.[d]
Denal 6% (1942) (1972)	6.05	6.25	6.10			
Dinu 6% (1941) (1971)	6.80	6.45	6.45			
Tesorería 6% (1945) (1975)	7.20	7.75	6.65			
Nacionales Consolidados 5% (1956) (1976)				5.80[c]	6.20	5.95
Cedulas del Banco Central Hipotecario 7% (1947) (1967)	9.30	9.65	9.90	10.20	10.95	11.95
Private Entities[b]						
Coltejar 10% (1956) (1971)				13.50	14.10	13.50
Coltejar 12% (1958) (1963)						11.50
Droguerías Aliadas 12%				10.10	14.40	12.50
(1954/57) (1959/62)			12.00	11.20	14.00	12.25

[a]The percentage yield is a calculated yield to maturity based on the last quoted market prices in December of each year. Source: Revista del Banco de la República (1950-1961).

[b]The per cent figure following the bond issuer is the coupon rate of the bond issue. The year(s) following the coupon rate in the first set of parenthesis is the date of issue. The second set of parenthesis contains the years(s) of maturity.

[c]Yield to maturity based on last quoted market price in January, 1958. These National Consolidation bonds refunded, among other issues, the Denal, Dinu and Tesoreria issues listed above.

[d]N.Q. = no market quotation.

TABLE 4-2

DIVIDEND YIELDS OF SELECTED SECURITIES TRADED AT STOCK EXCHANGE OF BOGOTA, 1955-1960[a]
(in per cent)

	Dec. 1955	Dec. 1956	July 1957	Feb. 1960
Public or Quasi-Public Entities				
Acerías Paz del Río	0.0	10.7	0.0	0.0
Banco Central Hipotecario	7.0	0.0	0.0	0.0
Private Entities				
Banco de Bogotá	11.6	11.6	10.3	10.6
Bavaria	-	-	-	10.2
Celanese Colombiana	-	-	-	11.4
Cementos del Valle	5.0	6.3	6.0	7.4
Cía Colombiana de Tabaco	6.9	6.4	7.2	10.5
Cía Colombiana de Seguros	4.5	3.6	4.8	7.3
Coltejer	8.8	9.0	8.9	9.6
Esso Colombiana	7.0	7.9	8.1	0.0
Fabricato	7.2	6.4	8.2	9.0
Manuelita	10.5	8.0	16.0	9.5
Tejidos El Cóndor	9.6	9.1	8.0	10.4

[a]The percentage yield was obtained by dividing ordinary and extraordinary dividends declared during the year by the last quoted price in the month and year noted. Where stock dividends were declared these were valued at their par value. Therefore, where stock dividends were declared, the stated yield is an underestimate of actual dividend yield. Source: Revista del Banco de la República (1955-1960).

The dividend yields obtained in the stock market were, in most cases, similar to the yields on the bond issues without holding requirements. The dividend yields, as shown in Table 4-2, are actually an understatement of the real rate of return due to the valuation of stock dividends, when declared, at par value rather than market value.

From the data contained in Tables 4-1 and 4-2, it appears that market factors tended towards a rate of interest of 10, 12 or even 14 per cent. The full extent of the disequilibrating influence of the central bank interest rate policies may be seen by comparing the imputed "market" rates of interest to the rates of interest which the central bank tended to maintain through the use of its discretionary powers.

In addition to its discretionary powers over discount and interest rates, the Board of Directors of the central bank have had, since 1949, the discretionary authority to vary the reserve requirements of the banking institutions. As in the United States, there were legal limits set on the level of these reserves: between 10 and 30 per cent against demand deposits and between 5 and 20 per cent against term deposits.[13] Within these limits, however, Directors of the Banco de la República wielded discretionary powers.

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[13]Non-shareholding banks, of only very minor importance in Colombia, were required to maintain 100 per cent reserves against deposits; see Decreto Extraordinario 756 de 1951, in: Angel, p. 277.

In both preference and in actual practice, the Directors of the central bank have preferred manipulation of the reserve requirement rather than changes in the discount rate as a means of influencing credit and monetary conditions.[14] Thus, while the basic discount rate remained almost stationary between 1950 and 1960, the level of required reserves of commercial banks against demand deposits was changed no less than 34 times during this period, while reserves against time deposits were altered on 22 different occasions.[15]

In addition to its discretionary powers over the level of these required reserves, the Directors of the central bank also were endowed with the authority to impose special "marginal" reserve requirements. These "marginal" or supplementary reserve requirements were applied against increases in deposits on current account.

In Colombia, where export and import operations are of considerable importance to the entire economy,

> "variations in primary reserve requirements, and in the imposition and removal of supplementary requirements against increases in deposits, were at first mainly intended to offset the effects of gold and foreign exchange gains or losses upon the money supply. More recently, however, reserve ratio changes were used in a more positive manner, and requirements were tightened on several occasions in order to help curb domestic inflationary pressures by restraining bank credit expansion."[16]

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[14] cf: "Editorial," Revista del Banco de la República, XXIV (September, 1951), 900.

[15] Revista del Banco de la República (1950-1961).

[16] Fousek, p. 51.

Thus, with the rising coffee earnings prior to 1955, for example, the regular reserve requirements were slowly rising -- from 12 per cent in early 1951 to a high of 22½ per cent in April, 1955 -- while supplemental reserve requirements were in effect during most of 1952, the better part of 1954, and during the middle of 1955. Again from the middle of July, 1957 until May, 1960 marginal reserve requirements were used to supplement increased regular reserve requirements to reduce domestic inflationary pressures.[17]

Without considering seasonal fluctuations, the data indicate that commercial bank reserve balances increased steadily from 1950 to 1960. Amounting to about PS $90 million in December of 1949, these reserves had grown to PS $644 million in July, 1960. In addition, despite attempts to restrain bank credit expansion, the commercial banks were able to maintain a fairly safe cushion of excess reserves until early 1958. By March of that year, however, the combination of rising reserve requirements and high marginal reserve requirements had all but erased commercial bank excess reserves. Indeed, until the end of 1960, except for seasonal fluctuations, the commercial banks were operating with only minimal excess reserves and, on several occasions between middle 1958 and middle 1960, reserves actually declined below the minimum level required.

As we have seen in Chapter III, the money supply expanded rapidly and at a nearly constant rate during the entire period 1950 to 1960. Similarly total loans outstanding of the commercial banks

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[17] Revista del Banco de la República (1950-1961).

grew throughout the same period, from PS $469 million in December, 1949 to over PS $2453 at the end of 1960. The rates of growth in both cases were not altered during the last two and one half years of this period during which time commercial bank excess reserves were practically non-existent.

To a large extent the failure to effectively restrain money and credit expansion is to be explained through the discount quota system which existed in Colombia during this period. This quota system allowed commercial banks to discount eligible paper at the Banco de la República up to a certain percentage of each bank's capital and legal reserve. The board of Directors of the central bank were invested with the discretionary power to adjust the commercial bank discount quota within the legal limits set by law.[18]

As we have seen, the level of legal reserves maintained by the commercial banking system rose steadily from 1950 to 1960. With these rising reserves the discount quota of the commercial banks automatically would rise. The Directors of the central bank could, however, at their discretion merely lower the discount quota as a percentage of reserves and capital when these increased, thus offsetting the one expansionary factor with a parallel deflationary factor. In fact, the opposite occurred. In the face of an automatically rising discount quota due to rising reserves, the discount quota was further increased by raising the quota as a percentage of

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[18]Decreto Extraordinario 756 de 1951, in: Angel, p. 276.

reserves and capital. While at the beginning of the period under study each commercial bank was entitled to discount paper up to an amount equal to 120 per cent of its capital and reserves, by June, 1960 these banks were able to discount paper equivalent to 370 per cent of capital and reserves.

These contradictory policies were quite notable, for example, during the period from the middle of 1958 to the end of 1960. We have seen how the Directors of the central bank raised the level of required reserves during this period in an attempt to reduce the ability of the commercial banks to extend loans. However, during the same period of time the discount quota of the commercial banks actually rose from 250 per cent to 370 per cent of capital and reserves, thereby increasing the capacity of the commercial banks to extend loans, not to mention the automatic increase in the discount quota due to rising reserves and capital.

In this way, the existing monetary policies were working at cross purposes and tended to produce contradictory effects. As a net result, the commercial banks were in a position, throughout most of the 1950's, to freely expand their loans, thus adding to the money supply.

In sum, it may be said that the discretionary powers of the Board of Directors of the Banco de la República between 1950 and 1960 did not appear to be exercised with a single-minded intent. The artifically low interest rates which the central bank Directors were able to create through its discount policies insured a steady and

strong pressure from borrowers on the credit capacity of the commercial banks. The reserve requirements and marginal reserve requirements generally tended towards contracting the loan capacity of the commercial banks. And, finally, the system of discount quotas successfully circumvented the restrictive effects of the system of required reserves, thereby permitting the commercial banks to freely accommodate the demands of the public to borrow. As a result, the level of commercial bank loans outstanding rose rapidly and continuously.

4-4 The Commercial Loan Doctrine

The principle of discretionary authority, upon which the powers of the Board of Directors of the Banco de la República to influence the money and credit market rested, was in contradiction to the philosophy of the banking system as embodied in its founding legislation, the Banking Laws of 1923.

The philosophy of this legislation, which continues to define the broad legal authorities of banking institutions in Colombia, was the principle of automaticity. The intent of the rules laid down was to insure an automatic regulation of the supply of money sufficient to meet the money and credit needs of the country without deliberate interference from the monetary authorities, or, in other words, without the use of discretionary powers.

The implementation of this philosophy rested in the provision of Banking Law 25 that the central bank could not make loans, discounts, or investments in documents, bonds, or bills of exchange maturing in more than ninety days, except for paper fully covered by agricultural

produce or livestock, in which case the maturity could be up to six months; and, that under no circumstances could the central bank purchase or discount documents which were to be used for permanent investment.[19] Moreover, the commercial banks were forbidden to grant loans of more than one-year maturity and were excluded from investments in industrial enterprises or real estate.[20]

This governing principle -- that the restriction of bank lending to short-term, bona-fide commercial loans would assure the proper volume of credit -- has been proven fallacious by the developments in Colombia.

The commercial loan, or "real bills," doctrine assumes that the demand for such loans, and hence the supply of eligible paper, will adjust itself to the current volume of production and thus match each peso of credit with a peso of available goods.[21] Unfortunately, however, there is no force within the banking system which tends to automatically adjust the volume of bank loans at any one time to the requirements of monetary stability.

> "The essential error in this real-bills doctrine is the contention that basing the money on the money value of some kind of economic good will limit its quantity. When it is proposed that the quantity of money be made to depend upon the value of some commodity, the unsoundness of the proposal has usually been recognized; but for some very strange reason it has not been so frequently understood that money which is related in quantity to the money value of some kind of credit instrument arising out of business transactions suffers from precisely the same shortcoming."[22]

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[19] Bernardo Rueda Vargas, A Statement of the Laws of Colombia (Washington: Pan American Union, 1961), pp. 221-222.

[20] International Bank, p. 303.

[21] Ibid.

[22] Mints, p. 178.

In an inflationary environment prices will be driven up by several producers or merchants bidding for the same available resources, goods, or commodities. In the process, the extention of commercial bank loans to meet the competitive demands for credit adds to the inflationary pressures, even though these banks remain wholly within the rule that only eligible loans should be granted.[23]

It appears, therefore, in light of the monetary expansion in Colombia between 1950 and 1960, that the rigid restrictions imposed by the Banking Laws of 1923 were of little or no merit as a means of automatic credit control. However, these regulations did tend to develop a complete separation of the commercial banking system from the process of capital formation.[24]

In the course of their development in Colombia, the commercial banks have always been managed as any other capitalistic industry whose principle incentive is profit and whose raw material is the supply of credit.[25] The central bank, particularly through its discount policies, has made the short-term loan the most profitable and has oriented the commercial banking system toward short-term credit operations, while discouraging longer-term credit by excluding these loans from rediscount priviledges. The only notable exception to this rule, as noted earlier, was the creation of a special discount rate in 1957 for which certain types of long-term obligations were eligible.

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[23]International Bank, p. 303.

[24]Ibid., p. 304.

[25]Antonio García, "La Reforma Bancaria y el Control Selectivo del Crédito en Colombia," El Trimestre Económico, XVIII (July-September, 1951), p. 460.

These conclusions may be illustrated by the data contained in Table 4-3. It can be seen that the distribution of commercial bank loans and discounts remained very nearly unchanged from 1952 to 1960. The small increase in loans destined to agriculture and the cattle industry is largely explained by the favorable treatment which these types of obligations received at the central discount window.

The term structure of commercial bank loans is equally revealing. In 1953, fully 90 per cent of all commercial loans were short-term, while one-tenth of one per cent were long-term. At the end of the decade short-term loans continued to absorb over four-fifths of all commercial bank credit and long-term loans accounted for about four per cent of all commercial credit.[26]

4-5 The Specialized Credit Institutions

A significant change, however, was occurring in the Colombian credit system during these years. While the social role of the commercial banking system continued to be oriented along the lines discussed above and the distribution of commercial bank credit remained almost unchanged, longer-term development-type loans were becoming increasingly available. These funds had their origin with the specialized credit institutions that were gaining increasing prominance in Colombia during the 1950's.

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[26] Revista del Banco de la República (1950-1961).

TABLE 4-3

PERCENTAGE DISTRIBUTION OF COMMERCIAL BANK LOANS AND DISCOUNTS, BY ECONOMIC ACTIVITY, ON DECEMBER 31, 1952-1960[a]
(in per cent)

Year	1952	1953	1954	1955	1956	1957	1958	1959	1960
Agriculture	7.7	6.9	7.9	7.8	7.5	8.1	9.2	13.4	10.7
Coffee Cultivation	3.3	3.1	3.8	3.9	3.9	4.1	4.9	2.2	2.8
Other Crops	4.4	3.8	4.1	3.9	3.6	4.0	4.3	11.2	7.9
Cattle Industry	12.8	14.9	16.9	16.8	14.7	13.3	13.3	13.4	14.6
Commerce	33.4	35.5	36.5	33.8	32.8	31.9	32.9	35.6	35.8
Industry	26.8	23.7	21.6	23.4	25.9	28.9	27.9	21.9	24.1
Construction	4.4	4.5	4.0	4.2	4.5	4.2	3.7	3.8	3.4
Other	14.9	14.5	13.1	14.0	14.6	13.6	13.0	11.9	11.4
Total Loans and Discounts	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Source: Departamento Administrativo Nacional de Estadística, Anuario General de Estadística, Colombia, (Annual editions, 1952 to 1960) (Bogotá: Multilith Estadinal, 1954-1962).

The growth of these institutions was reflected in the declining share of all bank loans and discounts originating with the commercial banks. While commercial bank loans and discounts accounted for over 81 per cent of all loans and discounts granted by all banking institutions, excepting the Banco de la República, at the end of 1949, this share had declined to 68 per cent by the end of 1960.

This trend had similar important effects in the term structure of total bank credit. While commercial banks continued to allot 80 to 90 per cent of their credit to short-term obligations, by the end of 1960 medium and long-term credit amounted to over 42 per cent of all credit granted by all banking institutions, excepting the central bank.[27]

The growth and activities of these specialized credit institutions merit full and detailed study. Unfortunately, however, due to the essential limitations of space we must confine ourselves to a brief discussion of the role and importance of these institutions.

With the exception of the savings banks, which might also be regarded as a specialized credit institution, these institutions were usually formed as a means of providing medium and long-term credit to various sectors in the economy which were not adequately served in their credit needs by the commercial banking system. Their subsequent

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[27]Calculated from Departamento Administrativo Nacional de Estadística, Anuario General de Estadística, Colombia, (Annual editions, 1952 to 1960) (Bogotá: Multilith Estadinal, 1954-1962).

growth reflected an increasing awareness of the necessity to foster certain activities calculated to further the process of economic development in Colombia.[28]

The most important of these credit institutions were grouped around three areas of activity. These were, in agricultural and livestock development, the Caja de Crédito Agrario, Industrial and Minero -- the largest savings bank in Colombia; the Banco Agrícola Hipotecario, which merged with the Caja Agraria in 1955; the Banco Ganadero; the Banco Cafetero y de Exportaciones; the Instituto de Colonización e Inmigración; the Instituto de Fomento Algodonero, and several others. In industrial and energy development the Instituto de Fomento Industrial, the Banco Popular, and the Instituto de Aprovechamiento de Aguas y Fomento Eléctrico were most significant. The institutions involved in the development of construction, housing, and municipal works were the Banco Central Hipotecario, the Instituto de Crédito Territorial, the Instituto de Fomento Municipal, and the Banco Hipotecario Popular.

The remarkable growth of these institutions during the decade of the fifties presented serious problems which arose in connection with obtaining the finances necessary to allow them to conduct the credit operations for which they were created. These entities received the bulk of their resources principally from allocations under

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[28]United Nations, Department of Economic and Social Affairs, Economic Commission for Latin America, Analyses and Projections of Economic Development, III, The Economic Development of Colombia (E/CN.12/365/Rev. 1, November, 1956) (Geneva, 1957), p. 117.

the national budget, investments in bond issues by public and private financial institutions, and from the Banco de la República.[29]

In our examination of the expansion and sources of the money supply in Chapter III we saw that investment in documents of public debt by the Banco de la República expanded from PS $141.4 million at the end of 1949 to about PS $750 million by the end of 1960.[30] The bulk of the central bank's long-term credit contribution to the specialized credit institutions is contained in these statistics.

Unfortunately, it is difficult to estimate the exact percentage of all central bank investment in documents of public debt that was absorbed by the specialized credit institutions. However, it may be said that most central bank investment in the specialized credit institutions was funnelled into the Banco Central Hipotecario, and that at the end of December, 1960 this amounted to over PS $111 million, or about 15 per cent of all central bank investment in documents of public debt.[31]

Central bank loans and discounts to the specialized credit institutions have been, at least since 1957, on a larger scale. Table 3-3 illustrates the amount of Banco de la República loans and discounts to the national government and other official entities. It may be seen that the amount of this credit remained very moderate until 1957, at which time it suddenly expanded to over PS $300 million and remained

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[29] Ibid., p. 120.

[30] See Table 3-3.

[31] Banco de la República, XXXIX Informe Anual del Gerente a la Junta Directiva, Primera Parte, (Bogotá: Banco de la República, 1963), p. 113.

at this very high level through the end of 1960. It is significant that the national government absorbed none of this financing after 1957. From 1957 to 1960 all of these loans and discounts were granted to other official entities, which were mainly the specialized credit institutions.

Thus, although legislation was passed obliging certain private individuals and private corporations, all savings institutions and all commercial banks to subscribe to the bonds and/or shares of the specialized credit institutions, this form of financing proved insufficient. Recourse to the use of long-term investment credit and short-term loans and discounts of the Banco de la República was therefore necessary. In these ways the burgeoning growth of the specialized credit institutions added to the growth of the supply of money.

4-6 Summary and Conclusion

Several conclusions concerning the rapid and persistent growth of the supply of money between 1950 and 1960 may be drawn from the preceding discussion. In general, commercial and central banking operations tended to facilitate easy credit on a short-term basis. The contradictory policies of the Banco de la República meant that while reserve requirements were being tightened, in an attempt to reduce the growth of the money supply, central bank rediscount and loan policies were working in the opposite direction. The expansionary effects of these policies were considerably enhanced by the rising rediscount quotas.

Moreover, the gold exchange reserve requirement against Banco de la República banknotes was reduced and then temporarily suspended at the very time when the restricting effects were beginning to be felt.

In addition, the general level of market interest rates was kept rigid and artifically low through the central bank policies and other legislation which directly linked these rates to the central bank rediscount rates. These policies insured a continuously strong pressure on the loan capacity of the commercial banks by private borrowers seeking credit at abnormally low interest costs.

The rising amounts of short-term credit outstanding, however, did not in any way help to provide the financial resources required by the specialized credit institutions. Thus, these institutions oftentimes were financed in ways which, in lieu of offsetting reductions in short-term commercial credit, added momentum to the growth in the supply of money and to the rising cost of living.

The Colombian monetary and credit experiences during the 1950's followed from the basic contradictions in the monetary system. This may be viewed as an unfortunate mixture of automatic controls, discretionary powers, and fallacious banking principles, as described in this chapter.

At a more elemental level, however, these experiences result from a confused idea of what the monetary system should do. Its founding legislation oriented the central bank and the banking system towards the commercial and trade needs of the 1920's. Today the perspective

has changed and the desire to develop and industrialize is foremost. Piecemeal and isolated attempts have been made, but the banking system as an integrated apparatus has not yet adjusted its philosophy to the new needs.

The description and analysis of the expansion of the money supply and of Colombian monetary and credit policies discussed in this and the previous chapter must now be more closely integrated with the earlier discussion of income growth. This integration, or unification, requires the development of a theoretical construct.

In the following two chapters we shall attempt to develop such a theoretical model and to apply it to the Colombian economy of the 1950's. This model will be used to provide an analytical framework for understanding the interrelationship between the growth of income, the expansion of the money supply, and the monetary and credit policies discussed in the preceding parts of this study.

CHAPTER V

MONEY AND INCOME: A THEORETICAL APPROACH

5-1 Introduction

In earlier chapters we have examined and described the expansion of the money supply and the growth of national income in Colombia between 1950 and 1960. On the one hand we have seen that, as national income has grown the supply of money has also grown, but at a more rapid rate during most of the period under study. Thus, a major characteristic of the period has been a declining ratio of income to money, or a declining income velocity of money.

In this chapter we shall develop a theoretical apparatus in order to explore the interrelated aspects of national income and the supply of money. In the following chapter we shall examine the theoretical equilibrium of this model and attempt to integrate it with our empirical knowledge of Colombian money and income expansion.

The model which we shall construct is a variation on certain aspects of the Keynesian system.

5-2 The Keynesian Analysis and the Underdeveloped Economies: A Word of Caution

It has frequently been argued that the Keynesian Analysis is, in fact, insufficiently general and, in its common form, largely

inapplicable to the underdeveloped nations. To a large extent this criticism is true.

Musgrave has put the problem quite succinctly:

> While the C + I side of the basic Keynesian identity C + I = Y proved far superior as a tool of analysis to the VM side of the traditional equation of exchange VM = OP, the same cannot be said for the replacement of OP by Y. Rather, this detracted attention from the important fact that changes in expenditures may result in changes in price level as well as output.[1]

Classical Keynesianism lays overriding importance on output changes and hence on increments in real income and on the elimination of involuntary unemployment. In this system, an initial does of new investment (private or public) is financed either by the creation of new money or the activation of idle savings. The new investment will have multiplied effects on the level of real income, determined by the size of the multiplier: $\triangle Y = k \triangle I$, where the multiplier k is equal to the reciprocal of the marginal propensity to save and $1 - \frac{1}{k}$ is the marginal propensity to consume. Since $\triangle Y$ is the increment in real income, it will increase by some multiple of the increase in investment, $\triangle I$.

The new investment serves to activate money balances, given a constant stock of money. But the new investment might be "financed" by the creation of new money, in the absence of sufficient voluntary saving. This is the possibility most relevant to the underdeveloped countries, including Colombia. In such a case, the real saving equal

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[1]Richard A. Musgrave, The Theory of Public Finance (New York; McGraw-Hill, 1959), p. 423.

to the level of new investment is derived from temporarily depressing the consumption function via an increase in prices, i.e., inflation, sometimes called "forced savings." With the rise in real income, the propensity to consume rises again to its normal level. With rising real income voluntary saving increases, alleviating the need for further money creation as a method of investment financing.

In this highly schmetized version of the Keynesian multiplier, it is apparent that there are actually several multipliers at work in the system, and that a relative identity between them is assumed. These multipliers relate the increment of money investment to the increment of money income, the increment in real investment to the increment in real income, the increment in investment output to the increment in total output, and the increment of employment in investment industries to the increment in total employment.[2]

While the intensity of these multipliers will be different, with the money investment -- money income multiplier probably strongest, "there is no doubt that all the multipliers mentioned above must be positive and moving in the same direction if the Keynesian thesis is to apply in practice."[3] This implies, then, that the multiplier principle works only if the following assumptions hold true:

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[2]V. K. R. V. Rao, "Investment, Income and the Multiplier in an Underdeveloped Economy," The Economics of Underdevelopment, edited by A. N. Agarwala and S. P Singh (New York: Oxford University Press, 1963), p. 211.

[3]Ibid., p. 212.

(1) Involuntary unemployment is widespread.
(2) The supply curve of output is price elastic at low levels of production, becoming perfectly inelastic only at high levels of output.
(3) Excess capacity in the consumption-goods industries exists.
(4) There is a comparatively elastic supply of working capital required for increased output.[4]

Unfortunately, these assumptions are not realistic in the case of most underdeveloped countries. In others, including Colombia, some of the assumptions may hold to a very limited extent while the others are almost completely without factual support.

One or two of these assumptions require special explanation. Probably the most controversial and least understood pertains to the type of unemployment which exists in the underdeveloped countries. Clearly, the "involuntary unemployment" discussed by Keynes[5] is not relevant. His definition relates to an industrial economy where the unemployed labor force leaves behind it a large, idle industrial capacity. Here, after a fall in real wages, the aggregate demand for labor increases and actual employment rises. Without the excess capacity, however, lower real wages could do little to increase aggregate demand for labor.

Joan Robinson has offered the term "disguised unemployment." This is also a cyclical type of unemployment and refers to the

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[4] Ibid.

[5] John Maynard Keynes, The General Theory of Employment, Interest and Money (New York: Harcourt, Brace and Company, 1936), p. 15.

"adoption of inferior occupations by dismissed workers."[6] This form of unemployment is, however, only a variation on Keynes' definition. It pertains when aggregate demand declines and the unemployed workers are driven to taking "inferior" employment due to the absence of any other means available which would enable them to live, e.g., unemployment compensation.

In an underdeveloped economy with a large agricultural sector and a notable shortage of capital, the typical form of unemployment may best be called "structual," or "hidden." This term is applied not to Keynes' or Robinson's employed worker, but to the worker whose marginal productivity in his current occupation is zero.

Some deny the existence of this type of unemployment: "I know of no evidence for any poor country anywhere that would even suggest that a transfer of some small fraction, say 5 per cent of the existing labor force out of agriculture, with other things equal, could be made without reducing production."[7] But the force of observation and the bulk of authority argue the contrary,[8] and today

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[6]Joan Robinson, Essays in the Theory of Employment (2nd edition; London: Oxford-Basil Blackwell, 1947), p. 62.

[7]Theodore W. Schultz, "Latin American Economic Policy Lessons," American Economic Review, Papers and Proceedings, XLVI (May, 1956), 426-427.

[8]cf. Alfredo Navarrete Jr. and Ifigenia M. De Navarrete, "Underemployment in Underdeveloped Economies," International Economic Papers, No. 3, 236; Celso Furtado, "Capital Formation and Economic Development," International Economic Papers, No. 4, 129-131; Raul Prebisch, "International Trade and Payments in an Era of Coexistence -- Commercial Policy in the Underdeveloped Countries," American Economic Review, XLIX (May, 1959), 254-260. The idea of structural unemployment may be found explicitly or implicitly in all the works of Raul Prebisch and of the United Nations Economic Commission for Latin America.

few economists would care to argue that the removal of one son's labor would appreciably diminish the output of his family's coffee finca, when his family numbers ten or twelve and the finca is five acres in size.[9]

This type of unemployment, however, does not necessarily indicate a faulty combination of existing factors, but may be a symptom instead of a relative scarcity of one, viz. capital. "One factor -- labor -- is squandered because another -- capital -- is deficient."[10]

The above discussion touches upon another assumption of the Keynesian multiplier -- the elasticities of the supply curves. The underdeveloped countries have, almost without exception, dominantly agrarian economies. Perhaps the most notable feature of the short-run supply curve for agricultural products is it's relative price inelasticity. This fact plus the land tenure and distribution systems, the shortage of agricultural credit, ignorance of market prices, transportation difficulties, and labor and capital immobility[11] have tended to create an aggregate supply or output situation in the underdeveloped economies which is considerably less price sensitive than aggregate supply conditions in the industrialized economies.

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[9]In Colombia, according to the 1951 Census, 32 per cent of all rural properties were 5 acres and under. [See Robert C. Beyer, "Land Distribution and Tenure in Colombia," Journal of Inter-American Studies, III (April, 1961) 283.] More recent figures claim that there are now 1.8 million farm families in Colombia living on a total of 7.5 million cultivated acres, or an average of 4 acres each. [See Sidney Lens, 'Roadblocks to Reform in Latin America," The Progressive, 27 (November, 1963) 19.]

[10]Furtado, 130.

[11]cf. Simon Rottenberg, "Incentives and Economic Growth Changing Roles and Public Policies -- Incentives in Underdeveloped Economies," American Economic Review, Papers and Proceedings, L (May, 1960), 74.

These points serve to announce to any theoretician some of the limitations of the Keynesian analysis when applied to an underdeveloped economy. What we hope to accomplish is an application of its useful aspects to a specific area of inquiry -- money supply expansion, growth of money income and the income velocity of money. What cannot be done with this analysis, when applied to an underdeveloped economy, is to explain in a realistic way the expansion of real income, output and employment. In effect, the replacement of OP by Y in the Keynesian analysis becomes a critical failing if and when price increases instead of output growth become significant.[12]

One further point needs to be added. We have seen that the multiplier relating investment in money terms to income in money terms works in the underdeveloped countries; and, that the multipliers relating real investment to real income, investment output to total output, and employment in capital goods industries to total employment either do not work or work only very weakly in the underdeveloped countries. Yet in many underdeveloped countries a situation exists similar to that in Colombia where both money income and real income have increased, with the former having grown much more rapidly than the latter.

Growth of both money income and real income occurred because some of the above four Keynesian assumptions have held true; because the real investment-real income, output and employment multipliers have exerted some effect. How this works out may be viewed from the standpoint of labor. Keynes' involuntary unemployment implies an elastic

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[12]Musgrave, p. 423.

supply of labor at the going wage. Full employment implies the opposite. If structural unemployment is typical, the situation approaches Keynes' meaning of full employment, i.e., an inelastic supply of labor.

As with Keynes' employment assumption, it would be equally difficult to demonstrate that his other assumptions are completely true or completely false. In this way the value of the multipliers lose their preciseness.

In the remainder of this chapter we shall explain and attempt certain modifications of the Keynesian investment-demand, savings supply, liquidity preference, and money supply schedules. In the following chapter we shall draw certain conclusions with regard to the equilibrium conditions imposed by these schedules and the failure of the Colombian economy to meet these conditions.

5-3 The Investment Function

In the development of the investment and savings functions which follows we shall make the same distinction that Keynes did. The investment and savings functions are in "real" terms, while the subsequent analysis of liquidity preferences and money supply will be drawn in "money" terms. The following will elaborate on this distinction, which is crucial to Keynesian analysis.

The "marginal efficiency of capital" schedule is an "investment-demand" schedule for real capital assets not yet in existence. These schedules, which we shall treat as identical, refer to the new creation of capital goods. The "marginal efficiency" of a type of capital good

is defined by Keynes as "the relation between the prospective yield of a capital asset and its supply price or replacement cost, i.e., the relation between the prospective yield of one more unit of that type of capital and the cost of producing that unit...."[13]

Thus at the very outset, with his use of the adjective "prospective" to modify "yield," Keynes introduces the role of expectations into his analysis of investment demand. These expectations are largely a matter of subjective speculation. We can easily see the importance of this psychological element for, with known supply costs and production functions, the entire concept of marginal efficiency of capital rests upon expectations of prospective yields.

The investment-demand schedule developed from Keynes' definition of the marginal efficiency of capital symbolizes the relationship of the marginal efficiency of capital to the volume of investment. Letting r stand for the marginal efficiency of capital, $r = f(I)$, where I is the volume of investment.[14]

The slope of the investment-demand schedule, as shown in Figure 5-1, reflects the underlying fact of diminishing marginal productivity, i.e., "each successive increment of investment will yield lower and lower returns."[15] Therefore, the marginal efficiency of capital will also fall as investment proceeds.

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[13]Keynes, p. 135.

[14]Alvin H. Hansen, Monetary Theory and Fiscal Policy (New York: McGraw-Hill, 1949), p. 57. The reader will note that we have consistently adopted the symbols of Hansen rather than those used by Keynes himself, believing that Hansen's have by now become more familar to most economists than the original ones.

[15]Alvin H. Hansen, Business Cycles and National Income (New York: W. W. Norton and Co., 1951), p. 126.

Relative to the prevailing market rate of interest, i, the negative slope of this schedule indicates that at a lower interest rate

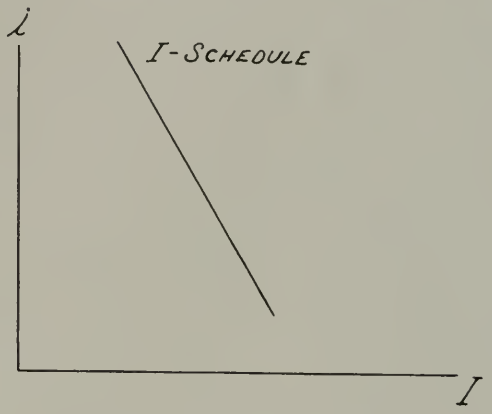

FIG. 5-1: THE INVESTMENT-DEMAND SCHEDULE

the amount of investment which can profitably be undertaken is greater than at a higher interest rate. The level of the schedule is determined by the state of business expectations or the prospective yield of an additional unit of the capital good.

The supply cost of the capital good, the expectations of future yields, and the technology, labor and market conditions, and other factors which contribute to the determination of the slope and level of the investment-demand schedule all change through time. Because of this, the slope and level of the investment-demand schedule itself will change through time, and, therefore, any given investment-demand schedule refers only to a given instant of time. In other words, the analysis which follows will be one of comparative statics.

The investment-demand schedule summarizes the various levels of investment volume possible in a given time period, given all the determinants of the marginal efficiency of capital. In order to determine the actual volume of investment undertaken the rate of interest in the money market must also be known. However, the money rate of interest is determined in the financial market by variables expressed in monetary units. The interrelationship between the marginal efficiency of capital, the money rate of interest and the volume of investment is exceedingly complex and forms the basis of our later arguments.

For the present it is safe to say that the volume of investment will tend to expand as long as the marginal efficiency of capital is above the interest rate; and that, as the economy approaches equilibrium, the marginal efficiency of capital tends to equal the interest rate. However, the investment-demand schedule derived in the above manner refers only to autonomous investment. Therefore, it is incomplete to argue, as Hansen does, that, given this investment-demand schedule, the volume of investment is a function of the interest rate: $I = I(i)$.[16] In fact, aggregate investment will be the sum of autonomous investment, government investment, and "induced" private investment.

We shall define "induced" private investment as determined by changes in the level of income. Therefore, in order to reflect the combined influences of the interest rate and the income level on the volume of all private investment, both autonomous and induced private investment must be illustrated by the use of a family of schedules.

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[16]Hansen, Monetary Theory and Fiscal Policy, pp. 57-58.

Hansen himself admits that what is needed is "perhaps a family of investment-demand schedules, one for each level of income,"[17] but he makes no further use of the idea. Probably the overriding objection to the actual use of income as a co-determinant with the interest rate of investment volume is "the fitful and irregular" effect which changing levels of income would have on the marginal efficiency of capital.

At a later point we shall present some arguments concerning income effects on the volume of private investment, and we shall similarly postpone a discussion of government investment demand. For the present it is only necessary to note that induced private and government investment demand must be added to the autonomous private investment-demand schedule to obtain an aggregate schedule of investment demand.

Since autonomous investment is a function of the interest rate and induced investment a function of changes in the level of real income, a family of investment-demand schedules is required in order to reflect these two determinants of the volume of investment. Figure 5-2 illustrates five possible investment-demand schedules corresponding to five possible or hypothetical levels of real income.

However, it is important to note the following implication of the analysis: with the physical production characteristics, supply costs and expectations of the prospective yield all fixed in a given

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[17]Alvin H. Hansen, A Guide to Keynes (New York: McGraw-Hill, 1953), p. 143.

instant of time, the family of investment-demand schedules does not portray actual shifts in the level of income and investment, but rather an array of hypothetical income-investment levels which would result were income to expand. The family of schedules, therefore, is indicative of an income-investment expansion path with the determinants of autonomous investment held constant.

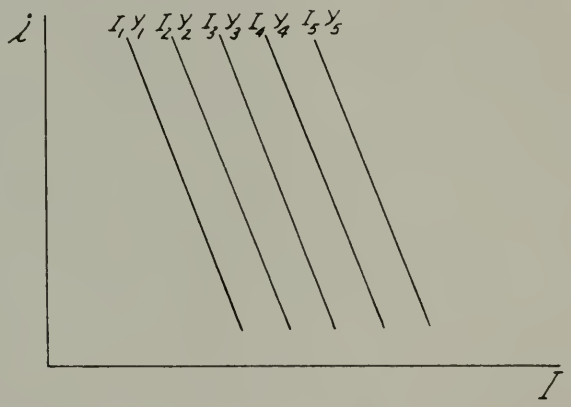

FIG. 5-2: A FAMILY OF INVESTMENT-DEMAND SCHEDULES

In sum, the figure merely demonstrates the fact that the volume of investment, in any instant of time, is a function of the level of income as well as the interest rate.

5-4 The Savings Supply Function

In real terms, any level of investment must be matched by a similar level of real savings. In the "supply schedule of funds" available for investment in real capital goods the savings are "real" in the sense that they represent foregone consumption of real goods and services. The savings supply schedule is derived from the consumption function.

Adopting the Keynesian-Pigouian terminology, money savings are equal to that part of current income which is not consumed. "Income is income whether it springs from the spending of funds borrowed from banks or from the spending of 'prior' income; and saving from such income is saving whether or not bank credit played a role in the process of income creation."[18] Hence, the savings schedule reflects the savings out of a current level of income which may be a result itself of expanded bank credit.

The schedule of real savings refers to a given level of real income after the multiplier process has worked itself out. As a result, while actual savings must always equal actual investment, whatever the momentary marginal propensity to consume and whatever the income level, actual savings may not hold a normal relation to actual investment. The level of real savings may have been made available only by depressing the consumption function below its normal level.[19] The inflationary process accomplishes this feat.

The savings supply for investment funds may be viewed, as in Figure 5-3, as a family of schedules which demonstrates the neoclassical idea that savings are a function of the interest rate and the Keynesian idea that they are a function of the level of income. In our presentation, as with the investment-demand schedule, the family

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[18] Ibid., p. 142. At this point, Hansen cites Pigou: A. C. Pigou, Employment and Equilibrium (2nd ed.; London: Macmillan and Co., 1949) p. 30.

[19] Hansen, Monetary Theory and Fiscal Policy, p. 222.

of savings curves refers to the various levels of real savings corresponding to various hypothetical levels of income that might exist at

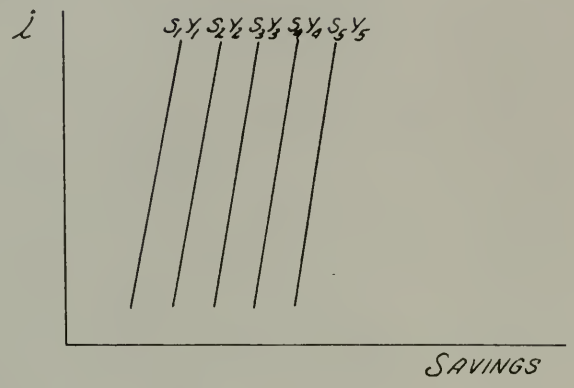

FIG. 5-3: A FAMILY OF SAVINGS SUPPLY SCHEDULES

one instant of time, given the consumption function. Therefore, the entire family of curves refers to a given instant of time.

5-5 The IS Curve

With the derivation of the investment-demand and savings supply schedules, the prerequisites exist for the development of the "Hicksian IS curve." The IS curve demonstrates the relation between real income and the interest rate which must be maintained if real savings are to equal real investment. In fact, the IS curve is a series of points which represent the savings-investment equilibrium.

The IS curve is constructed by plotting the family of investment-demand curves against the family of savings supply schedules -- I_1Y_1 against S_1Y_1, I_2Y_2 against S_2Y_2, etc. The analysis may be best

understood by remembering that the expectations and other factors, which underlie the investment-demand schedule, and the consumption function, which underlies the savings supply schedule, exist at one point in time. Therefore, the product of the two schedules, the IS curve, also refers to one time period. The IS curve may not be construed as representing the income-interest rate relationship with changes in the level of income over time. Rather, IS indicates the course of possible income-interest rate relationships, with savings and investment in equilibrium, which exists at one moment in time.

While only one IS curve may exist in a given period of time, its slope and level must reflect the slopes and levels of the underlying investment-demand and savings supply schedules. The latter may relate to each other in four theorical patterns, thereby producing four distinct IS curves, any one of which may be representative of the actual investment-savings relationship.

In Figure 5-4 the investment-demand and savings supply schedules are plotted against each other in order to derive the four investment-savings relationships. In the first instance, Case 1, the investment-demand schedule is fixed and does not vary with different levels of income, although the savings supply schedules do reflect various income levels. This case is often the only possibility actually recognized and developed in discussions utilizing the investment-demand and savings supply schedules. Indeed, the distinct danger exists that all other possibilities may be forgotten, or even denied.

Cases 2, 3 and 4 are, however, extentions of the same logic used to develop the first case. The difference is only that in these

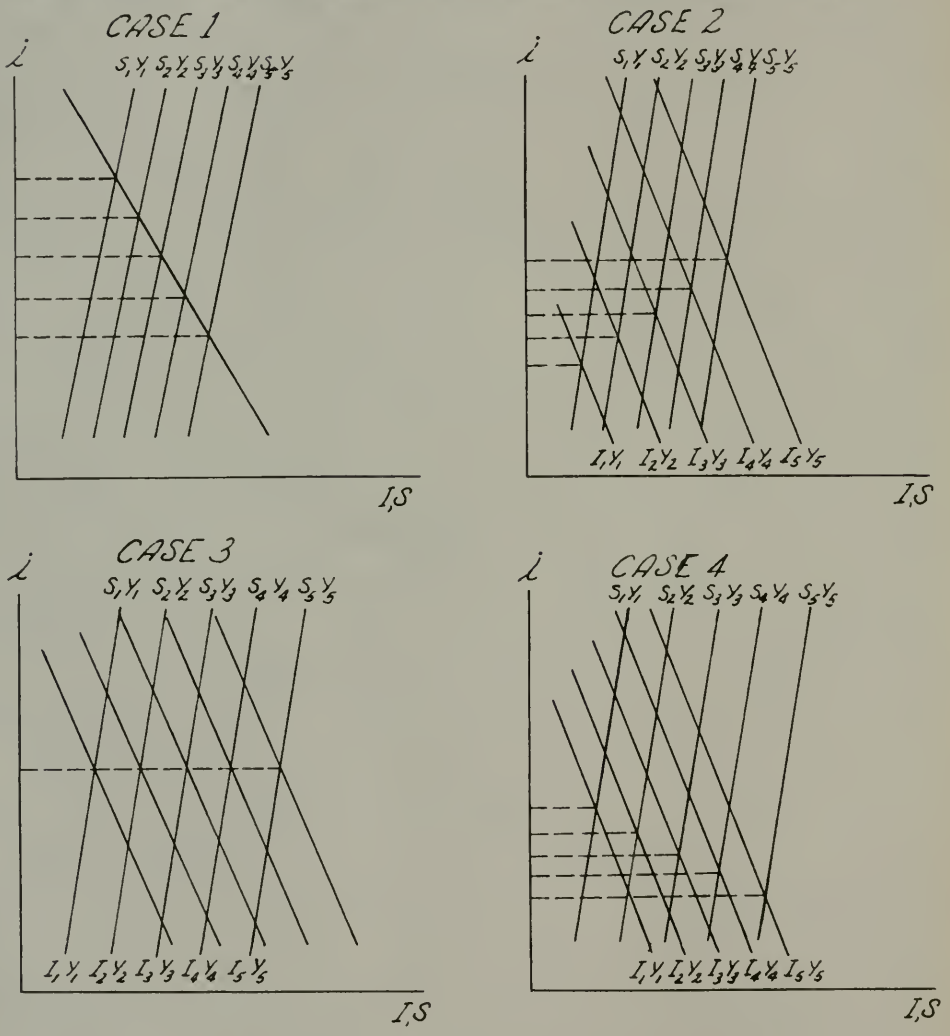

FIG. 5-4: THE FOUR POSSIBLE RELATIONSHIPS BETWEEN THE INVESTMENT-DEMAND AND SAVINGS SUPPLY SCHEDULES

three cases the income effect on investment is explicitly recognized. Again, it must be borne in mind that neither the family of savings or investment-demand curves indicate actual changes in the level of income, savings and investment through time. Rather, the families of curves serve to illustrate the expansion paths of income, and that the actual level of income which does exist at that point will directly influence, in conjunction with the interest rate, the actual level of savings and investment.

If the investment-demand schedule is fixed, as in Case 1, the effect of changes in the level of income on the volume of investment may only be shown by actual changes in the level of income. Hansen, whose analysis is along these lines (i.e., Case 1), is only permitted to demonstrate income effects by moving through time, a device which we feel violates the nature of the schedules, based as they are on fixed conditions.

Four types of IS curves may be derived from the four cases described. These four curves are developed, as shown in Figure 5-5, by connecting the points of equality between savings and investment at various income levels, as shown in Figure 5-4, and placing income on the horizontal axis. Given the IS curve, we can determine the level of real income for each rate of interest.

On purely theoretical grounds, it is impossible to determine the slope of the IS curve in this type of analysis. Hansen's analysis, for example, permits the determination of the IS slope only because he has developed his analysis strictly in terms of one of the four

possibilities, i.e., Case 1. The negative-sloping IS which results from this line of reasoning is relevant mainly when there is a great

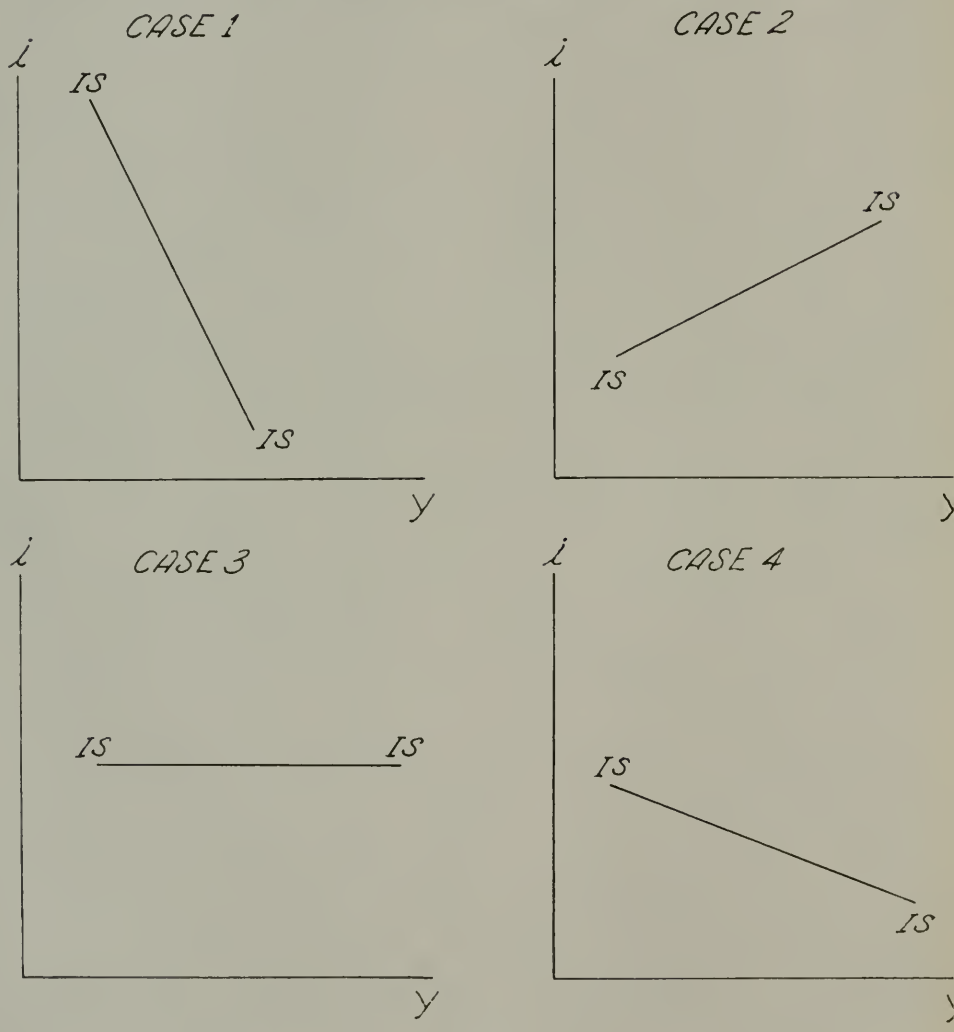

FIG. 5-5: THE FOUR POSSIBLE HICKSIAN IS CURVES

deal of involuntary unemployment, and therefore, is basically a product of "the sort of Slump Economics with which Mr. Keynes is largely concerned."[20]

Hicks, in recognizing the possibility of a negative-sloping, a positive-sloping and a horizontal IS curve, attributed the IS slope mainly to the state of marginal efficiency of capital expectations. These, in turn, he felt to be heavily influenced by the level of money wages and hence also by the degree of unemployment.[21]

We shall argue in the following chapter, on inductive rather than purely deductive grounds, that a developing country would tend to demonstrate the situation characterized in Case 2 in Figures 5-4 and 5-5 above, i.e., a positive-sloping IS curve. We shall also attempt to extend the analysis in order to show actual savings, investment, and income changes through time.

5-6 Liquidity Preference Analysis

We have thus far developed the IS curve as representing a series of points where real savings equal actual investment, determined by the levels and slopes of the investment-demand and savings supply

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[20]John R. Hicks, "Mr. Keynes and the 'Classics'; A Suggested Interpretation," Readings in the Theory of Income Distribution, edited by American Economic Association (Homewood, Illinois: Richard D. Irwin, 1946), p. 473. The presentation of the interrelationship between investment, savings, the interest rate, and the level of income with the use of the IS curve has continued to be a standard theoretical practice, although this tool was first developed in Hicks' 1937 article. See Hansen's Monetary Theory and Fiscal Policy and his A Guide to Keynes.

[21]Ibid.

schedules. Given the IS curve for one point in time, various levels of real income are uniquely related to various rates of interest in the financial market. It is basic to Keynesian analysis that the interest rate is determined in the financial market by the interaction of the liquidity preference and money supply schedules.

The variables which operate in the financial, or money market are expressed in money units. We have seen that the real factors in the determination of investment and savings may also be expressed in monetary units, but there is an important distinction. In the latter case, the money units are merely units of measurement expressing the underlying real values, and convertibility between the monetary and the real might be made by the use of the wage-unit or constant-value dollars. On the other hand, the monetary units used to express value in the determination of the interest rate are purely "nominal" in the sense that they may be expressed only in terms of current-value dollars.

At the outset it is essential to note that the determination of the interest rate should be based on a theory of stocks rather than flows. de Scitovszky has pointed out that the flow approach is applicable when stocks, or inventories, are negligible and independent of prices, but that neither condition applies to the supply of and demand for money and earning assets.[22] The interest rate, therefore is not the allocating mechanism between the supply and demand for

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[22]Tibor de Scitovszky, "A Study of Interest and Capital," Economica, New Series, VII (August, 1940), 293-317.

credit flows, rather the allocating mechanism between the holdings of stocks of earning and non-earning assets."[23]

The Keynesian analysis of the interest rate proceeds on the basis of a series of decisions (made in the aggregate sense). First is the initial choice to divide current income into consumption and savings. Once this is done, "people have yet another choice to make between holding the accumulated savings in the form of cash and holding them in the form of non-liquid assets."[24]

In order to analyze the factors influential in the latter decision, Keynes was led into an analysis of the motives for holding non-interest-earning cash, as opposed to less liquid but interest-earning financial assets. Thus, the Keynesian approach becomes a liquidity preference theory of interest. The analysis proceeds to answer the question of why people prefer to hold money in the form of "hoards."[25]

Keynes himself suggested three different reasons why people demand money to hold. These three motives are the now familiar transactions, speculative, and precautionary motives. We shall survey each of these motives. Then we must devise a money supply schedule which serves to satisfy the total demand for money to hold.

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[23]Lawrence R. Klein, The Keynesian Revolution (Paperbacks Edition; New York: Macmillan and Co., 1961), p. 123.

[24]Kenneth K. Kurihara, Monetary Theory and Public Policy (New York: W. W. Norton and Co., 1950), p. 108.

[25]Hansen, A Guide to Keynes, p. 126.

5-7 The Transactions, Precautionary and Speculative Motives and the Velocity of Money

As a first approximation to the total demand for money, we let the transactions demand for money be a function of the level of income expressed in money units of nominal value. Figure 5-6 illustrates this function, called the L_T function. L_T indicates the desired volume of transactions cash balances at various levels of money income.[26]

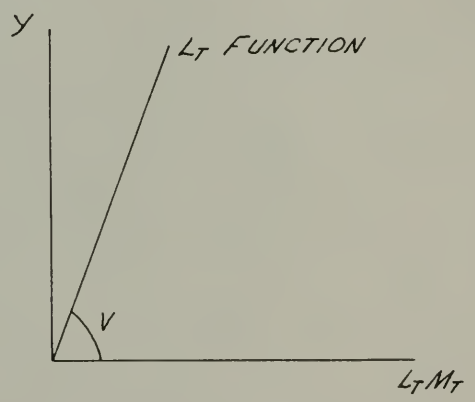

FIG. 5-6: THE L_T FUNCTION

The assumption that the demand for money for transactions purposes is a linear function of the level of income is a realistic assumption in view of the definitional motive behind such a demand: to satisfy "the need of cash for the current transaction of personal and business exchanges."[27] Since the amount of money demanded to satisfy these needs is "mainly a function of the volume of payments which must be met,"[28]

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[26] Hansen, Monetary Theory and Fiscal Policy, p. 61.

[27] Keynes, p. 170.

[28] Hansen, A Guide to Keynes, p. 129.

the transactions demand for money will be highly interest-inelastic, except at very high interest rates.[29]

The desired volume of transactions balances, L_T, is in some way related to the actual volume of money available for this purpose, M_T. Under circumstances which permit the actual volume of transactions cash to adjust freely to the desired volume, we may say that $L_T = M_T$. Given the assumptions that the transactions demand for money is a linear function of the level of money income and the actual volume of transactions money is equal to the demand for it, it follows that the velocity, V, of transactions money is constant. This should not be confused with the velocity of the total money supply, which may very well rise along with the level of money income during an expansionary phase of the business cycle. However, we must first introduce the other Keynesian motives for demanding money before we can fully discuss the interrelated aspects of the velocity of the total money supply and the velocity of transactions balances.

The second and third motives to demand money, called by Keynes the precautionary and the speculative motives, combine with the transactions motive to create the total demand for money. Grouped together, the precautionary and the speculative motives have come to be widely regarded as forming the basis of the "liquidity preference proper," or "the liquidity preference demand for liquid assets."[30] Money held

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[29] See fn. 38, p. 121.

[30] cf. Henry A. Latane, "Portfolio Balance -- The Demand for Money, Bonds and Stock," The Southern Economic Journal, XXIX (October, 1962), 71.

to satisfy these motives may be defined as "idle" money, meaning that it is held but not spent and, therefore, it demonstrates a zero velocity. Conceptually, when money that is held to satisfy either the precautionary or the speculative motives is actually spent, it, ipso facto, becomes transactions money with a positive velocity.

The original concept of the precautionary motive, as defined by Keynes, consisted of two types of money demand. First, "to provide for contingencies requiring sudden expenditure and for unforeseen opportunities of advantageous purchases,"[31] and secondly, the demand "to hold an asset of which the value is fixed in terms of money to meet a subsequent liability fixed in terms of money...."[32]

Recently the precautionary motive has drawn considerable attention,[33] primarily in an attempt to explain the post-war rise in income velocity in the U.S. Unfortunately, as of this writing too little is known about the sensitivity of the precautionary motive to make any realistic assumption relating it to the size of total wealth, total assets, or the level of income in an underdeveloped economy such

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[31] Keynes, p. 196.

[32] Ibid.

[33] cf. Milton Friedman and Anna J. Schwartz, A Monetary History of the United States, 1867-1960 (Princeton: University Press, 1963); William J. Frazer Jr., "The Financial Structure of Manufacturing Corporation and the Demand for Money -- Some Empirical Findings," The Journal of Political Economy, LXXII (April, 1964); William J. Frazer Jr., "Monetary Analysis and the Postwar Rise in the Velocity of Money in the U.S.," (to be published in Schweizerische Zeitschrift fur Volkswirtschaft und Statistik).

as Colombia.[34] We must, therefore, yield to the theoretical limitations imposed upon us, and continue to group the precautionary motive with the speculative. In doing this we rely upon the common ground shared by both, i.e., that money held to satisfy either motive is inactive, having a velocity of zero.

The speculative demand for money is a demand to hold idle balances, sometimes called "asset balances" or "asset money." Keynes' theoretical postulation of a demand for money simply to hold constituted a distinct break with orthodoxy and the "orthodox world." The factors behind this demand are fear and uncertainties of what the future holds, while "the orthodox theory, on the other hand, is concerned with a simplified world...where doubt and fluctuations of confidence are ruled out...."[35] The possession of actual cash serves to assuage our fears of the future while also permitting us to take advantage of fluctuations in the prices of goods or in the value of money or like uncertainties of the future.

The essence of the speculative (and, as we have defined it, the precautionary) demand for money is its "continuous response to

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[34]Frazer has noted, on the basis of a large sample of U.S. manufacturing firms, that 'the effect of increasing firm size is to reduce bank indebtedness as a percentage of assets and therefore to weaken the precautionary motive for holding cash relative to other assets...." (See Frazer, "The Financial Structure...," 182-183). This conclusion, based as it is on increasing firm size in the U S. and the existence of a highly-developed market in a wide range of non-monetary financial securities, is of little relevancy to the situation in the underdeveloped economies.

[35]John Maynard Keynes" chapter in The Lessons of Monetary Experience, ed. A. D. Gayer (Rinehard and Company, 1937), p. 151, quoted in Hansen, A Guide to Keynes, p. 127.

gradual changes in the rate of interest...."[36] The asset demand for money, L_L, is a function of the interest rate, $L_L = L_L(i)$, decreasing as the interest rate rises and increasing as the interest rate declines.

Several non-competing explanations for the shape of this function are available. For one, the higher the rate of interest the greater is the pecuniary reward for parting with money balances. Another is that as the rate of interest approaches zero the greater is the risk of a decline in the value of bonds and other fixed-income assets, and, therefore, the greater the demand for money as a means of avoiding possible losses on capital account.[37]

This last point, in particular, tends to flatten out the slope of the L_L function, causing it to become completely inelastic with respect to the interest rate at a low enough rate of interest. (As the L_L function becomes highly inelastic relative to the interest rate the basis is laid for the famous "liquidity trap" which is apparent in the total demand for money curve.)

The L_L function, illustrated in Figure 5-7, is a schedule of the desired amount of asset, or idle, balances at various levels of the interest rate, i.

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[36]Keynes, The General Theory, p. 197.

[37]William J. Frazer Jr., "Some Comments on Professor Ritter's Interpretation of Keynes and Changes in Income Velocity," Schweizerische Zeitschrift fur Volkswirtschaft und Statistik, 99th year (1963) 70-71.

The slope and level of the L_L function, or the schedule of the liquidity preferences demand for liquid assets, is determined by

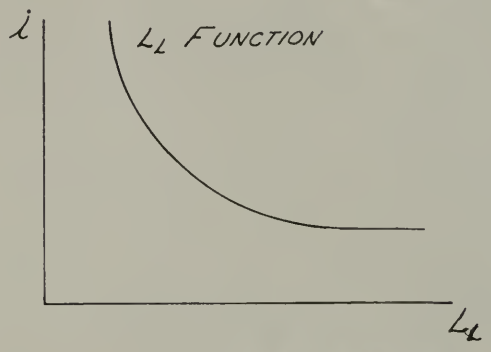

FIG. 5-7: THE L_L FUNCTION

the state of expectations as they bear upon the speculative and precautionary motives, loosely put, the degree of "fear and uncertainty;" a constant <u>total</u> money supply; the assumption of a constant velocity of transactions balances; and, the absolute level of the interest rate in the money market. The analysis is, therefore, static and applicable to a single point in time.

We may now examine the interrelationship between the velocity of money held to satisfy the transactions demand and the velocity of the total money supply. Given the slope and level of the L_L function as drawn under the above conditions, a constant velocity of transactions balances implies that, as the level of money income rises and the amount of money demanded to satisfy this demand proportionally increases, there must be a continuous transfer of money out of

asset, or idle, balances into transactions balances. Such a transfer will occur as the interest rate is bid up, symbolized by a leftward and upward movement along the L_L function.

As long as money is available from the asset sphere to satisfy the rising transactions demand the velocity of transactions money will not rise.[38] However, the velocity of the total money supply will rise, due to the increasing proportion of all existing money that is actively used and the decreasing proportion of all money that is held in asset, or idle, balances.

5-8 The Consolidated Demand Schedule for Money

We have now set forth the theory prerequisite to the development of a total demand schedule for money. This may be done by consolidating the demand schedule for transactions money, L_T, and the demand schedule for speculative (and precautionary) balances, L_L. Such a total liquidity preference function, L, is drawn with reference to a single point in time, with expectations as they bear on the speculative demand for money fixed.

The L schedule is also typically drawn in the context of a fixed total money supply while allowing the income level to vary. We

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[38]Under conditions of a fixed money supply, the increasing transactions demand will eventually exhaust the existing amount of idle balances. At this point, if transactions demand continues to increase it could only be satisfied by a "more intensive utilization" of the existing supply of money, i.e., a higher velocity of transactions balances. But transactions velocity will not automatically rise; it will do so only under the stimulus of a rate of interest higher than the rate necessary to absorb all idle, or asset, balances. Hence, it may be said that the transactions demand for money becomes interest-elastic only at a very high rate of interest.

We believe that this is an unnecessary theoretical condition which needlessly prevents the analysis from approximating reality. An alternative approach, which has wide implications vis-à-vis the LM curve and the IS - LM equilibrium, is to conceive of a series of L functions, one for each level of income and each drawn with a fixed money supply, but with a different money supply corresponding to each level of income.

As with the investment-demand and savings supply schedules, a family of L functions is required representing all hypothetical income levels which might exist at a given point in time. Figure 5-8 illustrates five possible consolidated demand schedules for money corresponding to five possible income levels. Of course, since the analysis is static, only one of the possible income levels and its corresponding L schedule will actually exist at one point in time.

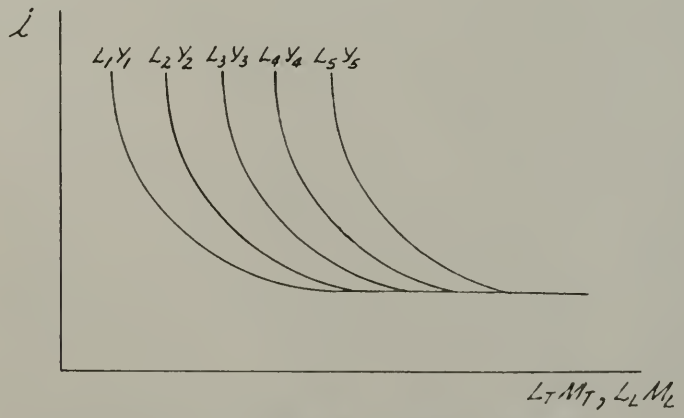

FIG. 5-8: THE CONSOLIDATED L SCHEDULE

Because the analysis is static we may posit the state of expectations as they bear on the speculative and precautionary motives for holding money as fixed. With these expectations given, the L_L, or asset demand for money is entirely a function of the interest rate, $L_L = L_L(i)$. This demand for money may, therefore, be assumed independent of the income level which exists at the given time.

Under these conditions, the only demand for money which is influenced by the level of income is the demand arising to satisfy the transactions motive. Every rise in income increases the transactions demand for money. It follows that the total demand schedule for money, L, will shift rightward at higher income levels in direct response to increasing transactions demand. The asset demand for money is not a consideration in determining the rightward shifts in the L function.

It follows that as the L function shifts rightward, reflecting a higher transactions demand consistent with a higher income level (and a new money supply), the slope and level of each successive L function must be identical.

This is distinctly different from the orthodox case,[39] when the several L functions, pertaining to various income levels, are all drawn with respect to a single, fixed money supply. Under these circumstances, the greater level of income is satisfied only by transferring money balances from the asset sphere to the transactions sphere.

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[39] cf. Hansen, A Guide to Keynes, p. 145, and Hansen, Monetary Theory and Fiscal Policy, p. 69.

Therefore, the L schedules change their slope at different income levels because at a higher level of income a greater share of the total supply of money is absorbed by the transactions demand.

5-9 The LM Curve

As we have seen, the investment-demand and savings supply schedules establish a relationship (expressed by the IS curve) between the level of real income and the interest rate. The consolidated demand schedule for money, L, in conjunction with the money supply, M, serves to establish a similar relationship, expressed by the LM curve. However, an important distinction between the two must be made. While the IS curve relates the interest rate to a specific level of real income, the LM curve expresses a series of relationships between the rate of interest and the level of money income.

The value of our approach to the development of the consolidated demand schedule for money may now become apparent. The analysis, as shown in Figure 5-9, may be best understood by regarding all the LY curves as alternative possibilities which exist at one point in time. Therefore, liquidity preference expectations concerning the future are fixed and the various LY curves reflect only the greater transactions demand for money consistent with greater levels of money income. Therefore, were income at any given level, e.g., Y_1, Y_2, Y_3, Y_4 or Y_5, a specific consolidated demand schedule for money would also pertain -- L_1Y_1, L_2Y_2, L_3Y_3, L_4Y_4 or L_5Y_5.

Since the analysis does not consider the money supply constant over a range of possible income levels, it follows that at any given

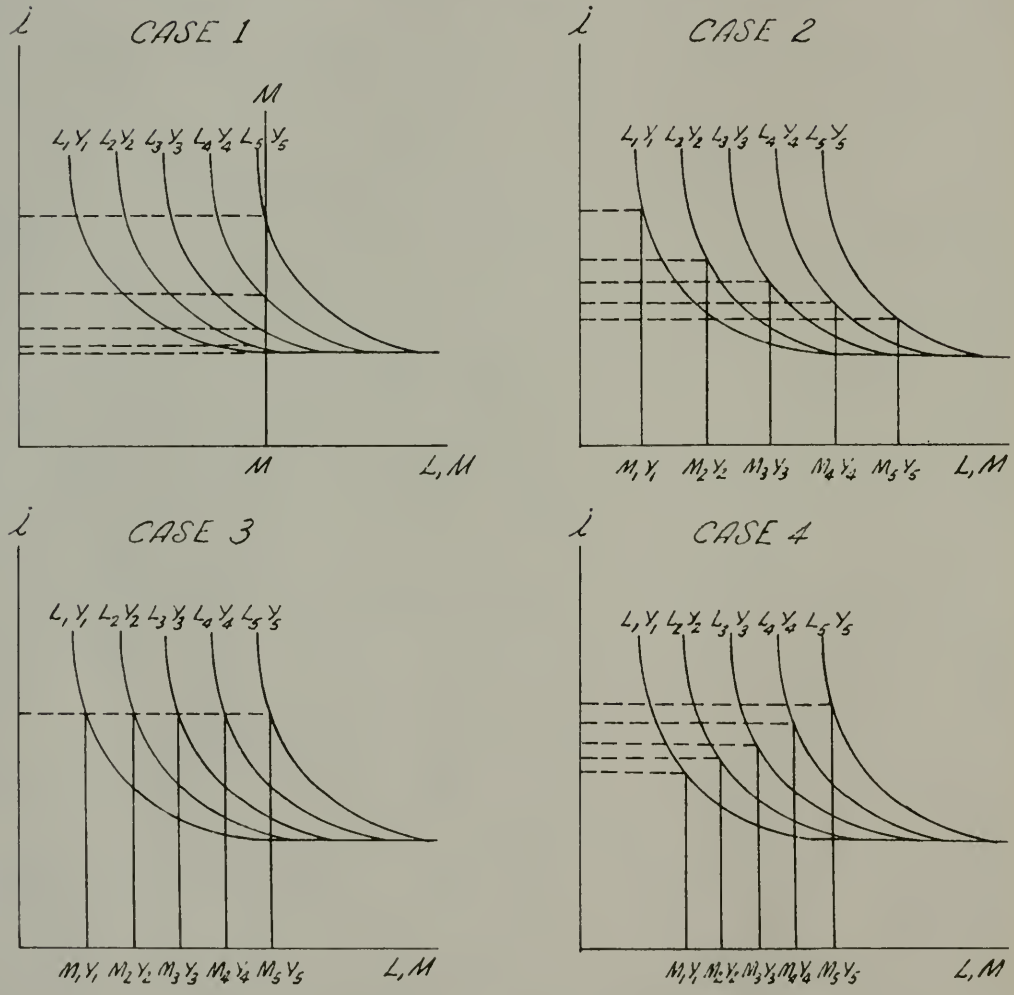

FIG. 5-9: THE FOUR POSSIBLE RELATIONSHIPS BETWEEN THE CONSOLIDATED DEMAND SCHEDULE FOR MONEY AND THE TOTAL MONEY SUPPLY

point in time, were income at any given level, a specific money supply would also pertain, e.g., M_1Y_1, M_2Y_2, M_3Y_3, M_4Y_4 or M_5Y_5. What level of money supply would correspond to the various income levels possible at one given time will be determined by the monetary system, institutions, and policies existing at that time. Therefore, these determinants of the money supply are considered fixed.

Under these conditions, the money supply curves might relate to the possible LY curves in several ways. To simplify, we consider three theoretical possibilities, shown in Figure 5-9. This figure also illustrates the orthodox development, shown as Case 1, where money supply is fixed regardless of the income level.

Cases 2, 3 and 4 illustrate three theoretical possibilities indicated by our analysis. Case 2 is representative of a situation characterized by strong money supply expansion. In this instance the money supply would expand, in the face of expanding income, by an amount greater than the increasing transactions demand, thereby tending to force the interest rate downward. Case 4 shows the opposite possibility, which would follow were the given fiscal and monetary policies, monetary institutions, and monetary system conducive to a stringent or tight money situation. Money supply would still tend to expand but only by such a moderate amount as to force the transfer of money balances out of idle balances into active, i.e., transactions balances. This process is accompanied by a rising interest rate, which serves to effect the transfer. Case 3 illustrates the middle-ground between loose and tight money expansion. It may be called a symetrical expansion because

the expanding money supply is exactly equivalent to the growing transactions demand. For this reason the interest rate is unaffected.

Four types of LM curves may be developed from the four cases discussed. These four curves, illustrated in Figure 5-10, are obtained by connecting the points of equality between the consolidated demand schedules for money and the actual supply of money at various possible income levels, as determined in Figure 5-9 above. Income is then shifted onto the horizontal axis.

The several LM curves which result from this process demonstrates the possibility that at a given time, with liquidity preference expectations fixed and the monetary and fiscal policies, monetary system, and financial institutions fixed, the rate of interest may vary directly, inversely or not at all with the level of income. These possibilities follow from the upward-sloping, the downward-sloping, and the horizontal LM curves.

The only LM curve usually examined in the literature on the subject is positive-sloping, and is developed with the technique shown by Case 1 in Figures 5-9 and 5-10 (i.e., a fixed money supply regardless of income level). Clearly, the orthodox treatment presents only one of several possibilities. Yet so widespread is the notion that LM slopes upward-to-the-right that, as with the negative-sloping IS curve, the danger exists that any other possibility may be forgotten, or even denied.

A qualification of our development of the LM curve must now be made. It is entirely possible that even in terms of static analysis,

with fixed monetary and fiscal policies, given monetary legislation, etc., and with liquidity preference expectations fixed, the supply of

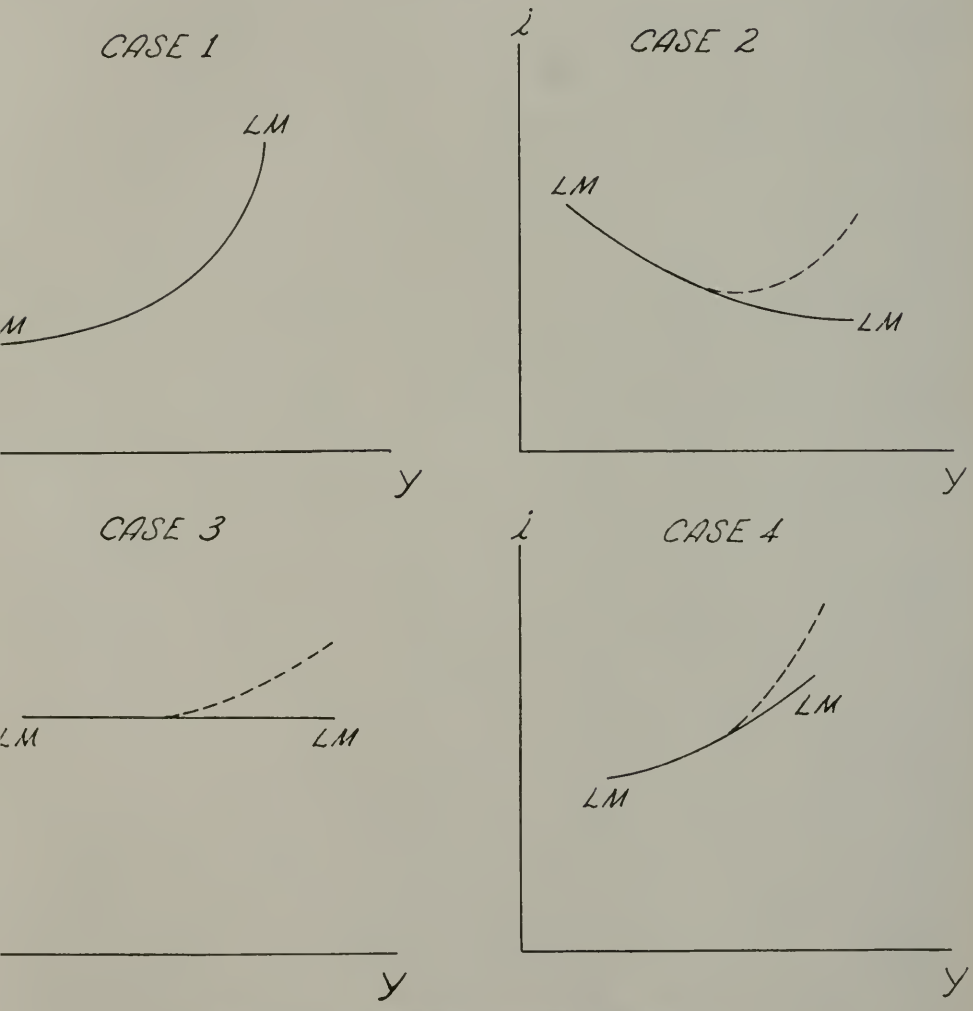

FIG. 5-10: THE FOUR POSSIBLE LM CURVES

money-demand for money relationship might be a combination of Cases 2, 3 and 4. This would be notably true when higher levels of income would be accompanied by strong inflationary pressures. Under these circumstances it is likely that, in Cases 2 and 3 in Figure 5-10, the LM curve would demonstrate a positive slope at a sufficiently high level of money income; and in Case 4, the LM curve would, at a high level of money income, become increasingly interest-elastic. This phenomenon is shown by the dotted curves in Figure 5-10.

Indeed, as we shall see in the following chapter, if the IS curve does in fact have a positive slope the LM curve must have an even greater positive slope at some point in order for a stable IS = LM equilibrium to exist.

CHAPTER VI

MONEY AND INCOME IN COLOMBIA: A DESCRIPTIVE AND THEORETICAL INTEGRATION

6-1 Introduction

A good deal of descriptive and statistical data has been set forth in Chapters I through IV testifying to the rising price level, the expanding money supply, the monetary and credit policies, the growing real and money income, and declining income velocity of money characteristic of the Colombian economy during the decade of the fifties. In the previous chapter we have been intent upon developing a theoretical model which would serve to explain the interrelationship of these factors.

In this chapter we shall attempt to integrate the inductive information contained in the first four chapters with the deductive model developed in the previous chapter.

6-2 The IS and LM Equilibrium

From the economic model developed in the previous chapter we may construct a point of theoretical equilibrium by bringing together the IS curve and the LM curve. At the point of intersection between these curves the rate of interest, as determined by the investment and savings functions, or, the investment rate of interest, is equal

to the rate of interest determined by the consolidated demand schedules for money and the money supply schedules, or, the money rate of interest. At this point it will also be true that money income, or income expressed in current dollars, will be equal to real income, or income expressed in constant dollars, and that the single rate of interest will relate to the single level of income in such a way that (a) investment and savings are in equilibrium, with actual savings equalling desired savings, and (b) the total demand for money is in equilibrium with the supply of money, with the desired amount of money equal to the actual supply of money.

It is usually said, therefore, that the intersection of the IS curve with the LM curve is the equilibrium point for the model. However, only if the LM curve has a positive slope and the IS curve a negative slope will mere intersection of the two curves produce a stable equilibrium point. But as we have shown in the previous chapter, the IS curve may have a positive slope and the LM curve a negative slope.

If the IS curve does in fact have a positive slope, its intersection with the LM curve is not sufficient to define a stable equilibrium. Another condition necessary for stable equilibrium is that the LM curve slope upward-to-the-right, at some income level, so as to intercept the IS curve from below. That is, at some point on the income axis and regardless of its slope closer to the interest axis, the LM curve must demonstrate a greater interest-elasticity than the IS curve so as to intercept IS from below.

This point may be demonstrated, as in Figure 6-1, by drawing the IS curve sloping upward-to-the-right. The usual definition of equilibrium, where IS = LM, occurs at four points -- A, B, C and D. However, only point D is a stable equilibrium point.

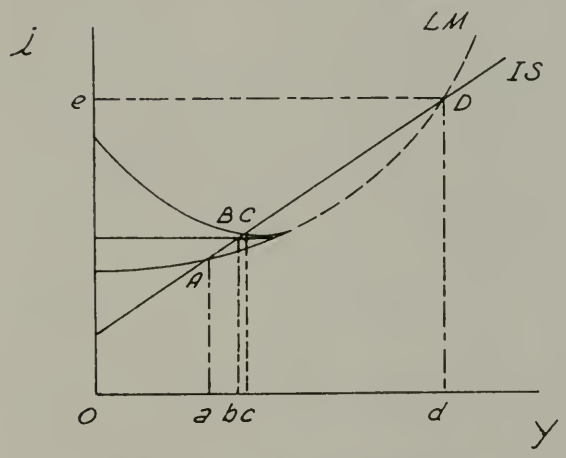

FIG. 6-1: THE IS-LM EQUILIBRIUM

Points A, B and C are unstable equilibrium points because anywhere to the left of a, b or c the money rate of interest exceeds the investment rate of interest and, therefore, investment would shrink and income would cumulatively decline. Anywhere to the right of a, b or c but to the left of d is also unstable because the investment rate of interest exceeds the money rate of interest. This would tend to produce an expansion of investment and, with it, of income. Anywhere to the right of d would tend to produce a decline in income because the money rate exceeds the investment, reducing income. This process would continue to shrink income, but only back to d, where the

money rate of interest would have declined to the point where it again is equal to the investment rate of interest. Therefore, it may be concluded that the only stable equilibrium point is D, where the equilibrium level of both money and real income is Od and the equilibrium level of both the money and the investment rate of interest is Oe.

6-3 The Slope of the IS Curve in Colombia

On inductive rather than purely deductive grounds, we are led to argue in terms of our static analysis, that the forces were present in Colombia during the decade of the fifties which tended to produce a positive-sloping IS curve. There are, in fact, several arguments for this position, related to both the demand for and supply of capital.

On the investment-demand side, there were several pecularities relevant to the Colombian experience between 1950 and 1960. Three of these factors tended to exert their influence through their effect on marginal efficiency of capital expectations, and a fourth factor which directly effected the investment-demand schedule.

The factors which tended to react upon the investment-demand schedule through marginal efficiency of capital expectations were the growing domestic market and rising purchasing power of the people as real income rose, the anticipation of a rising price level, and the artificially-low level at which interest rate costs were maintained during the period.

These three factors constitute specific income effects on marginal efficiency of capital expectations. Yet it is not necessary

to argue that these effects exist only as income grows through time. On the contrary, these income effects may all be implicit in the given marginal efficiency of capital expectations as they exist at one instant of time.

What we claim is that, for all intents and purposes, income effects on these expectations need not necessarily arise from an actual growth of income. The family of investment-demand schedules, existing with respect to a single time point, must reflect these income effects on the marginal efficiency of capital expectations.

In addition to the autonomous and induced private investment which resulted from these effects on marginal efficiency of capital expectations, aggregate investment demand was supplemented by strong government demand on available real resources during most of the period under study.[1] Therefore, the level of the aggregate investment-demand schedules was considerably higher than they would have been without government investment.

The argument in favor of an upward-sloping IS curve is still incomplete, however, because the IS curve is a product of both the

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[1]This type of investment was discussed in Chapter II. It might be pointed out that, because most of this investment consisted of "Social Overhead Capital" -- "usually defined as comprising those basic services without which primary, secondary and tertiary productive activities cannot function" [Albert O Hirschman, The Strategy of Economic Development (New Haven: Yale University Press, 1958), p. 83] -- the slope of the investment-demand schedules would also tend to change, since the shapes of the production functions themselves would be altered. This phenomenon, however, could only occur through time and would not be reflected in the slope of the family of investment-demand schedules which exists at one instant of time.

investment-demand and savings supply schedules. As we have seen, the supply of savings, or "supply of capital," is primarily a function of the consumption function.

In almost all underdeveloped countries the consumption function is at a very high level. "The basic trouble is that the presence or the mere knowledge of new goods and new methods of consumption tends to raise the general propensity to consume."[2] This is the famous "demonstration effect" popularized by Duesenberry, with earlier antecedents in Veblen.

In addition to the demonstration effect, the abnormally-low interest rates paid on term and savings deposits in Colombia undoubtedly served to reduce the level of real savings below the amount that would have been forthcoming if interest rates had been allowed to rise to a more realistic level.

The consumption function which resulted from these two factors must be reflected in the family of savings supply schedules. The effect may be illustrated by drawing the individual savings supply schedules at closely-spaced intervals relative to higher possible income levels.

It is true that an increase in real savings is often forced into existence by inflationary methods. As we have seen, this result may be achieved by depressing the consumption function below its normal level. The IS curve, however, is drawn with reference to investment

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[2]Ragnar Nurkse, Problems of Capital Formation in Underdeveloped Countries (New York: Oxford University Press, 1961), p. 62.

and savings equilibrium, not mere equality. This equilibrium implies actual savings equal actual investment as determined by the normal propensities to consume and save.[3] Therefore, we may not accept the possibility that "forced savings" directly shift the savings supply schedule rightward by a distance greater than that dictated by the normal propensities to save and consume.

The sum of these points concerning marginal efficiency of capital expectations, the investment-demand schedules, the consumption function and the savings supply schedules serve to strongly argue that conditions existed in Colombia which tended to produce a positive-sloping IS curve.

Theoretically, for such a slope to pertain it is only necessary that the individual investment-demand schedules exist at more widely-spaced intervals than the individual savings supply schedules, relative to higher hypothetical income levels. This is the situation illustrated by Case 2 in Figures 5-4 and 5-5 in the previous chapter.

6-4 The Savings and Investment Functions and the IS Curves Under Dynamic Conditions

The analysis thus far developed has been static, and applies only to conditions as they exist at one point in time. The static nature of the analysis follows from the assumptions of a given consumption function (although the level of savings was allowed to vary with respect to several possible income levels); fixed expectations as they

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[3]Alvin H Hansen, Monetary Theory and Fiscal Policy (New York: McGraw-Hill, 1949), pp. 72-73.

bear on the marginal efficiency of capital (although the level of investment was allowed to vary with various levels of income); given monetary and fiscal policies, a given monetary system, and given financial institutions (although the money supply was permitted to vary with different income levels); and, fixed expectations as they bear on the demand for money (although the consolidated demand schedule for money was allowed to vary with respect to the level of income, reflecting a varying transactions demand for money balances).

In order to allow the model to explain the role of investment-demand in the growth of national income, and the importance of money supply expansion and declining income velocity of money accompanied by price inflation over a decade of time, it is necessary to relax the above assumptions which limit the analysis to an instant of time. In the remainder of this chapter we shall, therefore, attempt to approximate the movement of the key functions through time, in the light of known, empirical data.

The difficulties inherent in purely deductive analysis become overwhelming with movement through time. Dynamic analysis may not make use of the same assumptions which are appropriate to static analysis. With movement through time, the consumption function, expectations as they bear on the marginal efficiency of capital and liquidity preference, monetary policies, and financial institutions may change. It follows that the level and slope of the investment-demand schedules, the savings supply schedules, the total demand for money schedules, the money supply schedules and, therefore, the level and slope of both the IS and LM curves may change over time.

This does not, however, imply an indeterminate situation. We must explicitly recognize the necessity to supplement deductive analysis with inductive knowledge. From such a combination certain valid conclusions may be drawn concerning the movement of each of the four schedules through time.

We have seen in the previous chapter that the investment-demand schedule relates the volume of investment to the marginal efficiency of capital, and that the marginal efficiency of capital is a computation balancing known supply costs against prospective yields on new investment, while the savings supply schedule relates the volume of real savings to the consumption function. The IS curve itself, of course, relates the investment-demand schedules to the savings supply schedules.

In the immediately preceding section of this chapter several reasons were propounded which served to argue that the investment and savings environment in Colombia tended to generate a positively-sloping IS curve. It is our belief that these same arguments can, in large part, be applied to investment and savings determinants through time.

The prime determinant of the savings supply schedules, the consumption function, is, as we have seen, largely a matter of the demonstration effect and the rising aspirations to consume on the part of the people of an underdeveloped country. Since these effects, which are largely of psychological origin, are likely to exert continuous and steady pressure on consumption demand, the consumption function was probably at a relatively high level in Colombia throughout the entire decade under study.

The import restrictions which were implemented in Colombia at various times during the 1950's, as discussed in Chapter II, present a complicating factor in the analysis. These restrictions were composed of quantitative restrictions, import surcharges, advance deposits, multiple exchange rates and other miscellaneous tools, and were usually designed to prohibit certain consumption imports, primarily luxury goods. However, the net effect of these import restrictions on the level (though not on the composition) of the consumption function was probably nil, because the largest share of consumption demand which is denied access to foreign luxury imports will usually be spent on available domestically-produced goods.[4] We must conclude, therefore, that the normal propensity to consume remained high even in the face of widespread import restrictions.

The growth of national income in Colombia during the decade under study was also accompanied by strong investment demand. The slowly increasing real income and the expanding domestic market, the moderate rate of price level inflation and the anticipation of this inflation all tended to strengthen and reinforce marginal efficiency of capital expectations. These ebullient expectations influenced the investment-demand schedule, causing a continuous shifting rightward and upward through time. Moreover, rising investment demand due to optimistic expectations was strongly supplemented by quantitatively large government investment demand.

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[4]George Soule, David Efron and Norman T. Ness, Latin America in the Future World (New York: Farrar and Rinehart, Inc., 1945), p. 157.

All this is not to argue that the components of the marginal efficiency of capital operated to consistently shift the investment-demand schedules rightward and upward. In fact, certain atypical factors did appear from time to time, affecting either supply costs or prospective yields. The most notable example in the period under study was the general austerity program in effect during the latter part of the decade. This policy, directed primarily at the country's balance of payments deficit, served to severely restrict the importation of some needed capital goods and raw materials, and to drive up the supply costs of others. Additionally, the program created an air of uncertainty concerning all future investment possibilities and plans which apparently served to dampen investment.

The resulting affect on the IS curve through time is implicit in the schedules of investment and savings. As we have argued under the conditions described, the slope of the IS curve was positive in terms of our static analysis. There is no evidence to suggest that this slope was altered by movement through time, except during atypical time periods when the general circumstances described did not obtain. Since each IS curve refers to a single point in time, we conclude that the typical conditions which existed in Colombia during the decade of the fifties tended to create a series of positively-sloping IS curves which shifted upward and rightward through time with the growth of actual real income.

6-5 The Supply and Demand for Money Under Dynamic Conditions

The two determinants of the LM curve, the supply of money and the consolidated demand schedule for money, must also be considered in the dynamic sense.

The actual supply of money is, as we have seen in the previous chapter, dependent upon the banking system and legislation, monetary policies, etc. in effect. Obviously, these determinants are susceptible to change with the passage of time.

However, as we have seen in Chapter III, the expansion of the means of payment in circulation in Colombia has been markedly even and continuous during the 1950's. The growth of the money supply in Colombia has, in fact, been more rapid than that of any other significant economic variable, e.g., real income, money income, etc.[5]

Part of this growth may be explained by a monetary authority and by monetary policies which have been extremely permissive vis-à-vis credit and loans for commercial purposes. This problem which we examined at some length in Chapter IV, occurs, as in many underdeveloped countries, where the monetary authorities and the central bank still

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[5]The problem of an apparently limitless growth in the supply of money is one of the most discussed problems in Colombia (and in all of Latin America). cf: Dulcy Garcés Molina, Memoría, Primer Congreso Nacional de Economistas, Document No. 20: Proceso Historico del Problema Cambiario en Colombia (Bogotá: Sociedad Colombiana de Economistas, 1958), pp. 1-4; Sociedad Colombiana de Economistas, Memoría, Primer Congreso Nacional de Economistas, A Report Prepared by the First National Congress of Economists (Bogotá: Sociedad Colombiana de Economistas, 1958), p. 4; Giges, "Quinta Reunión de Tecnicos de los Bancos Centrales," Economía Colombia, 13 (June, 1957), 573-576.

perceive their proper role to be largely one of providing a money supply elastic to commercial needs. This passive role also frequently extends to the financing of governmental debt by means of increasing the money supply.

The actual money supply together with the total demand schedule for money determines the level and slope of the LM curve.

The consolidated demand schedule for money, L, is probably the most volatile, statistically ambiguous of the four determinants discussed. While the demand to satisfy the transactions motive is a stable function of the level of money income, the same cannot be said of the asset demand for money. Such demand is based primarily upon uncertainties and expectations with regard to the future level of the interest rate (speculative motive) and future business contingencies (precautionary motive).

Thus, the asset demand for money rests essentially on the psychological condition of the public. The term was, in fact, designed to convey only a demand for money, not the actual amount of cash-holding for asset purposes.[6]

Clearly, the demand for money is subject to strong fluctuations through time. The convenience of assuming liquidity preference expectations constant, as done in static analysis, is inappropriate to a dynamic situation. Yet the speculative-precuationary demand for money is absolutely essential to the analysis; and the analysis of this demand

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[6] Kenneth K. Kurihara, Monetary Theory and Public Policy (New York: W. W. Norton and Co., 1950), p. 106.

for money, in conjunction with the supply of money, is central to the theoretical discussion of income expansion that follows. Fortunately we can approximate the course of the asset demand for money through the decade of the fifties with the use of velocity of money calculations. This shall become apparent as the analysis proceeds.

6-6 The IS and LM Equilibrium Under Dynamic Conditions and the Wicksellian Inflationary Gap

Thus far we have demonstrated that the equilibrium rate of interest and the equilibrium level of income will be determined where the IS and the LM curves intercept, with LM cutting IS from below. But, in dynamic terms such equilibrium must be regarded as no more stable than the least stable of the four schedules which determine IS and LM. Moreover, there is no essential reason for assuming that the economy ever actually attains such an equilibrium nor, that if such a point were reached, that the equilibrium condition would pertain for more than an instant of time.

In point of fact, in any analysis of an economy where price inflation has been practically a way of life, such as in Colombia and others like Chile, Brazil, Paraguay and Boliva to a greater or lesser degree, attention must center on the lack of such equilibrium because such equilibrium implies price level stability.

Secular inflation will result when the investment rate of interest, or the marginal efficiency of capital rate of interest, which lies on the IS curve, remains persistently above the money rate of interest, lying on the LM curve.

The critical relationship between the investment rate of interest and the money rate of interest is part and parcel of the Wicksellian theory of interest and prices. Wicksell argued that investment is determined by the rate of interest in comparison to the earnings on an investment, so that "expansion will take place when their i.e., durable capital goods earnings increase or when the rate of interest falls, so that their capital value now exceeds their cost of reproduction."[7] Hansen has remarked that this particular statement strikes very close to Keynes own formulation of the marginal efficiency of capital and the determinants of investment.[8]

Therefore, earnings on investment, or the capital value of the investment good, serve to generate a form of an interest rate, called by Wicksell the "natural" or the "normal" rate. This rate was defined by Wicksell as a theoretical concept "away from which our deviations are imagined to originate...and cannot be though of as so much percent."[9] In general, this rate "depends on the efficiency of production, on the available amount of fixed and liquid capital, on the supply of labor and land, in short on all the thousand and one things which determine the current economic position of a community."[10]

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[7]Knut Wicksell, Interest and Prices, trans. R. F. Kahn (London: Macmillan and Co., 1936), p. 134.

[8]Alvin H. Hansen, Business Cycles and National Income (New York: W. W. Norton and Co., 1951), p. 325.

[9]Wicksell, p. 100. In point of fact, as Wicksell defined them, the "natural" rate and the "normal" rate are not identical. Yet the distinction between the two is somewhat muddled and no operational difference is apparent. See text p. 146.

[10]Ibid., p. 106.

A concept very similar to this was developed by Cassel, and was called by him "the real rate of interest of the capital market."[11] Indeed, we may equate Wicksell's "natural" rate to the investment rate of interest or the marginal efficiency of capital rate, as used throughout this study.

This real, natural, or investment rate of interest must be set against what Wicksell simply calls the rate of interest, or Cassel's "bank rate," or what we have called the money rate of interest. In any case, the reference is to the interest rate (or average of several rates) which prevails in the money market.

"If, for any reason," Wicksell writes, "the average rate of interest [money rate] is set and maintained below the normal level [investment rate], no matter how small the gap, prices will rise and will go on rising."[12] If the position of the interest rates is reversed, "prices will fall continuously and without limit."[13]

The mechanism may be briefly summarized. If the banks and other lenders of credit lend at a money rate of interest which is below the investment rate, entrepreneurs will in the first instance obtain an excessive profit. These profits will inevitably induce them to extend their operations in order to exploit their favored position. The

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[11] Gustav Cassel, "The Rate of Interest, the Bank Rate, and the Stabilization of Prices," Readings in Monetary Theory, edited by American Economic Association (Homewood, Illinois: Richard D. Irwin, 1951), p. 328.

[12] Wicksell, p. 120.

[13] Ibid.

number of people becoming entrepreneurs will grow. Finally, "as a consequence, the demand for services, raw materials, and goods in general will be increased, and the prices of commodities must rise."[14]

The upward pressure on prices, following in the wake of strong investment demand, will proceed as long as the money rate is below the investment rate.

The stability of prices was one of Wicksell's prime concerns. This fact is reflected in his definitions of the "normal" and the "natural" rates of interest. The former is 'that rate which, having regard to the situation in the market, would be necessary for the maintenance of a constant level of prices,"[15] while the current value of the natural rate of interest is that "certain rate of interest on loans which is neutral in respect to commodity prices."[16] Hence, a prevailing money rate which is either higher or lower from that which corresponds to the natural, or investment, rate of interest is evidence that "the economic equilibrium of the system is ipso facto disturbed."[17]

Consequently, it is easy to agree with Brunner and Meltzer that "central to the view that 'money matters' is the hypothesis that differences between the demand for and supply of money...clearly

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[14] Ibid., pp. 105-106.

[15] Ibid., p. 100.

[16] Ibid., p. 102.

[17] Ibid., p. 105.

indicate the direction of change in money income."[18] Between them, the consolidated demand schedule for money and the actual supply schedule for money determine the LM curve.

Yet as we have seen, equally central to the analysis are the investment-demand and savings supply schedules, which act as co-determinants (with the demand for and supply of money) of the direction of change in money income. These schedules determine the IS curve.

From Wicksell's analysis we know that the relationship between the money rate of interest and the natural, or investment, rate of interest will determine the course of change in money income. A long period of inflation is consistent, in this analysis, with a situation where the investment rate of interest tends to persistently remain above the money rate of interest. From the analysis developed in this paper, we see that these rates of interest must lie upon the IS and LM curves respectively. These curves, therefore, provide us with the tools to examine more closely the Wicksellian inflationary gap.

We have seen that a theoretically stable equilibrium exists where IS = LM, with LM intercepting IS from below. This equilibrium is consistent with stability of the price level. The developments in Colombia between 1950 and 1960, where inflation was persistent and continuous, clearly indicate that this equilibrium condition did not

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[18] Karl Brunner and Allan H. Meltzer, "Predicting Velocity: Implications for Theory and Policy," Journal of Finance, XVIII (May, 1963), 322.

obtain. By this we do not wish to imply that a theoretical IS = LM equilibrium did not exist, but merely that it was not attained.

Two alternatives present themselves. First, is the theoretical possibility that no IS = LM equilibrium existed. This would occur in a situation where the IS curve slopes upward-to-the-right while the LM curve maintains an interest-inelastic clope. Under these circumstances, which might exist for one point in time or continuously through time, the LM curve never intercepts the IS curve from beneath and, therefore, no stable equilibrium is possible.

A second possibility is more reasonable. As discussed above in Chapter V, it is realistic to assume that, were price inflation sufficiently rapid, the monetary authorities would eventually curtail money supply expansion. The effect of this response would be to force a positive slope on the LM curve somewhere quite far to the right on the income axis. In such a case a theoretical IS = LM equilibrium would exist.

Under these circumstances, the failure to attain an IS = LM equilibrium, and thereby achieve price stability, is to be explained by the fact that, with movement through time, the IS and LM curves were continually shifting. This follows because the conditions which serve to determine each IS and LM curve exist for only a moment in time.

The significant fact would appear to be not the existence of a theoretical equilibrium, but rather that the IS and LM curves were shifting with the passage of time before such equilibrium was reached. Such is the nature of a dynamic situation.

6-7 The LM Curves Under Dynamic Conditions and the Wicksellian Inflationary Gap

We have argued in this chapter that, under the circumstances indicated, the IS curve referring to a single point in time would possess a positive slope. Similarly, we argued that a series of IS curves, illustrative of movement through time and determined by the particular aspects of the investment-demand and savings supply schedules in Colombia would tend to maintain this slope while shifting upward and rightward in response to factors affecting the underlying investment-demand and savings supply schedules.

In this case, the Wicksellian inflationary gap would tend to persist and grow cumulatively larger unless the corresponding LM curves simultaneously shifted upward and rightward.[19] Several institutional restraints operated in Colombia to slow or prevent the LM curves from adjusting in such a way so as to attain equilibrium.

These restraints operated through the money supply schedule. Therefore, factors affecting the consolidated demand for money schedule will be ignored for the present, although they have a critical role to play as we shall see.

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[19]Wicksell makes essentially the same point, the difference being that our analysis is conducted in terms of the IS and LM curves, while he argues in terms of the investment rate of interest and the money rate of interest which lie on these two curves respectively: "The essential point is that the maintenance of a constant level of prices depends, other things remaining equal, on the maintenance of a certain rate of interest on loans [money rate], and that a permanent discrepancy between the actual [investment] rate and this rate exerts a progressive and cumulative influence on prices." (Wicksell, pp. 120-121.)

One factor operating to prevent an upward shift of the LM curve is a rapidly expanding money supply. In Colombia we have seen that this has occurred throughout the fifties and several reasons for the expansion. The direct result of this expansion, in lieu of counter-pressures stemming from an increasing demand for money, was to force a highly interest-inelastic slope upon the LM curves through time, and to prevent the curves from shifting upward. Since the money rate of interest lies on the LM curve, the consequence is the persistence of an abnormally low money rate of interest.

Another factor of considerable operational significance may be viewed as a contributive factor to the money supply expansion. Both tend to generate the same results. Suppose, for any reason, that the IS curve shifts upward and the investment rate of interest rises. To maintain an equilibrium condition it would be necessary that the LM curve simultaneously shift upward and the money rate of interest rise. However, there exists, at least in a complex monetary system, no connection between the two rates other than variations in the price level caused by the difference between them.[20] This link is elastic, tending to delay interest rate adjustments:

> An increase in the real [investment] rate does not therefore immediately cause a corresponding rise in the bank's [money] rates, but the latter remain unchanged for a time and with them the loan rates between individuals. The money rate therefore becomes abnormally low in relation to the

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[20] Knut Wicksell, Lectures on Political Economy, Vol. II,: Money, edited by Lionel Robbins (New York: Macmillan Company, 1935), p. 206.

> real capital rate, and this naturally has just the same effect as if the money rate had been spontaneously reduced with an unchanged interest on capital -- which seldom happens.[21]

Hence, the upward adjustment is delayed; the investment rate remains for a time above the money rate; there is excessive investment accompanied by a run on credit, and an inflationary pressure on the stability of prices. If the individual banks do not counter this pressure by raising their interest rates, the price rise continues.

The Colombian monetary policies greatly exacerbated the difficulties of the adjustment process throughout the decade of the fifties. As we have seen in Chapter IV, on a great many types of loans the interest rate charged by the banks was actually fixed by law and remained constant over long periods of time.

This is not an unusual phenomenon in underdeveloped countries, where the greatest concern is for development, and price-stability considerations are almost an afterthought. Cheap money is also oftentimes a highly-charged political issue. Similarly, easy commercial credit has frequently been a traditional monetary policy supported by many highly-placed individuals who stand to gain in a personal manner.

Clearly, under the dynamic conditions supposed, the investment, or marginal efficiency of capital, rate of interest will very likely tend to persistently remain above the money rate of interest through

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21 Ibid.

time. It follows that the economy normally operates under inflationary conditions stemming from a persistant inflationary gap of the Wicksellian variety.

This theoretical apparatus presents, we hope, one explanation of the hyper-inflationary process -- where the IS and LM curves, and hence the investment and money rates of interest tend to diverge progressively and cummulatively with the passage of time.

The analysis also presents a sound logical alternative when hyper-inflation does not obtain, such as in Colombia through the fifties. Given the analysis thus far developed, moderate inflation is to be explained by the fact that the IS and LM curves did not tend to progressively diverge through time, but instead tended to maintain a limited inflationary gap.

The inflationary gap will tend to be reduced to the extent that the LM curves through time shift upward and rightward. This shifting process has the direct result of closing the distance between the IS and the LM curves, between the current investment rate and the current money rate of interest.

It must be noted that mere rightward shifts of the LM curves could only close the inflationary gap if these curves also became highly interest-elastic at some distance to the right on the income axis. This would strongly imply some degree of monetary stringency. Yet the common situation in Colombia was for the rising investment demand to be financed by new money creation, which is characteristic of the Wicksellian inflationary gap. Thus, the possibility is slim

that in the process of shifting rightward the LM curves also became sufficiently interest-elastic to insure equilibrium.

Hence, the LM curves must have shifted upward as well as rightward over time in order to close the inflationary gap, or more precisely, since the IS curves were also shifting upward and rightward, in order to maintain an inflationary gap of only modest dimensions.

6-8 The Demand for Money and the Velocity of Money

Under the conditions thus far stated -- the IS curves shifting upward and rightward through time and the money supply schedules tending to delay and/or prevent compensating adjustments by the corresponding LM curves -- the inflationary gap will be kept in reasonable bounds only when the consolidated demand schedules for money adjust in such a way so as to override the effects of the money supply schedules and force the LM curves to shift upward as well as rightward through time.

In point of fact, we know that this is exactly what did occur in Colombia during most of the period under study. The process whereby the LM curves shifted upward, as well as rightward, through time may be proven to be equivalent to a declining velocity of money, and as we have seen in Chapter I, the velocity of money did decline in Colombia from 1951 to 1959.

The proof of this identity may be shown by recalling the three motives to demand and hold money. The global concept called "the velocity of money" may be viewed as largely determined by these motives:

the speculative, precautionary and transactions motives. These three motives may be distinguished in the following way: balances held for transactions purposes contain all active money; at an earlier point in this study we allowed that the velocity of these balances remained largely constant. The balances held to satisfy the speculative and precautionary demands for money we have lumped together; these balances contain all idle money. The terms active and idle refer to the intensity of utilization of these balances. While transactions balances have a positive velocity, the speculative-precautionary balances have a velocity of zero.

Since only money held for transactions purposes has a positive velocity, which remains fairly constant, and all money held for asset purposes has a zero velocity, the fact that velocity declined indicates that the relative size of the latter, or idle, balances increased. Stated otherwise, the declining velocity of money was empirical evidence that (a) transactions balances as a percentage of all money balances decreased, and (b) the asset balances as a percentage of all money balances increased.

With the continuous rise in money income in Colombia during the 1950's, there was, of course, an increasing demand for money to satisfy the transactions motive. This would occur even without any output increase, reflecting merely an increasing demand for money in order to conduct the same amount of business at higher prices.[22] Were

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[22]Sidney Weintraub takes important notice of the effect of inflation on the transactions demand: "In an age of inflation the rise of prices as a source of transactions demand can hardly be underestimated." [Classical Keynesianism, Monetary Theory and the Price Level

liquidity preference expectations as they bear on the demand for money to hold as an asset assumed constant, the consolidated demand schedule for money would shift rightward, but not upward, with higher money income. This conclusion is consistent with our construction of the consolidated demand schedule for money in the previous chapter.

Clearly, however, with rising money income, accompanied by rising real income, price inflation, and an expanding supply of money, neither liquidity preference expectations as they bear on the asset demand for money nor the asset demand for money itself could have remained constant. In the working out, since the velocity of money declined we know that these balances increased in relative importance.

Our thesis that the relative importance of asset money balances increased in Colombia during an inflationary period appears to contradict the usual assumption that these balances will decline during an inflationary period ("a flight from money") because of the cost attached to the holding of money balances due to the declining value of money. Clearly, however, this cost of holding money must be set against the benefits of being in a liquid position during a price inflation.

Increased uncertainties during an inflationary period are axiomatic, and some of these uncertainties serve to create additional incentives for liquidity,[23] the effects of which will fall directly

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(Philadelphia: Chilton Company, 1961), p. 21.] Unfortunately, Weintraub concludes that the entire IS-LM construct must be discarded, "for it omits entirely the phenomenon of changing price levels." [Ibid.] Hopefully, our presentation overcomes this objection to the standard formulation of IS-LM.

[23]Graeme S. Dorrance, "The Effect of Inflation on Economic Development," International Monetary Fund Staff Papers, I (March, 1963), 4.

on the speculative and precautionary motives to hold money. Some of these new uncertainties result in an intensification of the "illiquidity risk -- that is, the risk of not being able to withdraw from a commitment, once enterred into, should the owner wish to change the disposition of his assets subsequently."[24] Similarly related is the greater desire for liquidity accompanying price inflation because the latter frequently entails changing and unforeseen profit opportunities.[25]

In Colombia during the decade of the fifties, the evidence of a declining velocity of money merely indicates that the positive benefits of holding increased amounts of asset money were felt to outweigh and over-balance the negative effects or costs which accompanied the holding of idle money.

We have already shown in the preceding chapter that an increase in asset balances is consistent with an upward shift in the consolidated demand for money, just as an increase in transactions balances is consistent with a rightward shift in the total demand schedule for money.

In sum, therefore, the effects of rising income on the transactions demand for money must be added together with the changing demand for asset money. Specifically, the increasing transactions demand

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[24]Nicholas Kaldor, "Economic Growth and the Problem of Inflation, Part II," Economica, New Series, XXVI (November, 1959), 288.

[25]A. S. Shaalan, "The Impact of Inflation on the Composition of Private Domestic Investment," International Monetary Fund Staff Papers, IX (June, 1962), 245.

will create a rightward shifting effect and the increasing asset demand will prompt upward shifts. The net result will be a process shifting the consolidated demand schedule upward and rightward through time. The declining velocity of money in Colombia was a result of this shifting process.

The relationship between the money rate of interest and the velocity of money may seem a bit paradoxical. The usual expectation would be to find these two variables moving in the same direction.[26] But this expectation has its source in what is actually a special case -- where the speculative-precautionary demand for money is shifting leftward. In this study of the Colombian economy we have tried to focus attention on some of the pecularities of a developing country. In so doing we examined the logical alternative where the money rate of interest and the velocity of money were moving in opposite directions.

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[26] cf. Lawrence S. Ritter, "The Structure of Financial Markets, Income Velocity, and the Effectiveness of Monetary Policy," Schweizerische Zeitschrift fur Volkswirtschaft und Statistik (September, 1962), 282.

CHAPTER VII

SUMMARY AND CONCLUSION

In this study of the Colombian economy during the decade of the 1950's we have concentrated our attention on two main aggregative facts: the growth of income and the expansion of the money supply. Furthermore, in the last two chapters we have attempted to construct a model of the Colombian economy during these years in order to lend insight and to unify the descriptive aspects of the study.

Thus, a major thesis of Chapter II was the continuing trend of structural change and industrialization in Colombia. This fact, plus our examination of some of the most important economic policies which tended to sustain both a strong consumption demand and a strong demand for investment goods, formed the basis for our theoretical discussion of the investment-demand and savings supply schedules in Chapter VI.

Similarly, our examination, in Chapters III and IV, of the rapid expansion of the money supply between 1950 and 1960, and of the banking system and monetary and credit policies which generated this expansion, served to lay the basis for our hypothesis in Chapter VI concerning the money supply schedules.

The ratio of national income to the money supply, or the income velocity of money, was briefly mentioned in Chapter I as a measure of the general liquidity of the Colombian economy. The fact that this ratio declined from 1951 to 1959 served to support our contention in Chapter VI that the demand for money, or liquidity preference, schedules shifted upward and rightward through time.

The results of this study, therefore, lend themselves to a brief summarization in theoretical terms.

We have attempted to demonstrate in this study that the direction of change of money income in Colombia during the decade of the fifties may be considered a function of an inflationary gap. This gap resulted primarily from strong investment demand in combination with a weak supply of real savings, which produced a series of IS curves shifting upward and rightward through time.

In addition, there was a continuously expanding supply of money in Colombia which tended to flatten out the LM curve and prevent a stable IS = LM equilibrium. Fortunately, during this decade the transactions and asset demands for money were also increasing, with the latter absorbing a relatively greater share of the existing money supply. This factor is indicated by a declining velocity of money. Accordingly, the LM curves tended to shift upward and rightward with the IS curves. By this fortunate combination of factors the inflationary gap was kept to moderate proportions in Colombia during the decade examined.

APPENDIX A

The purpose of this appendix is to determine whether or not the official Colombian price indexes, particularly the wholesale-price index, accurately indicated the degree of price inflation in Colombia between 1950 and 1960.

The official wholesale-price index is a base-year weighted index of price relatives calculated by the Colombian central bank, the Banco de la República. The items are grouped according to the Standard International Trade Classification (S.I.T.C.), and the weights are rough estimates of the value of consumption in 1952, i.e., value of production plus imports minus exports.

The index itself contains nine classifications: food products, beverages and tobacco, non-combustible raw materials, fuels and lubricants, animal and vegetable oils and fats, chemical products, manufactured goods, machinery and transport equipment, and miscellaneous manufactured goods. The weights allocated to each classification are: 57.28, 7.06, 2.79, 3.39, 0.75, 2.69, 13.64, 6.10, and 5.30. The nine component sections of the wholesale-price index for the years 1950 to 1960 are reproduced in Table A-1.

Each of these nine major classifications is, in turn, composed of numerous sub-classifications, appropriately weighted. These sub-classifications contain the individual goods surveyed -- a total of

TABLE A-1

OFFICIAL WHOLESALE PRICE INDEX BY MAJOR CLASSIFICATION, 1950-1960[a]
(1950 = 100)

Year	All Goods	All Goods Minus Food	Food Products	Beverages and Tobacco	Non-Combustible Raw Materials
1950	100.0	100.0	100.0	100.0	100.0
1951	107.9	106.4	109.0	103.8	130.7
1952	106.6	106.2	107.0	105.7	126.9
1953	112.8	106.5	117.4	113.0	126.6
1954	120.7	108.6	129.8	120.4	128.9
1955	121.6	115.5	126.2	138.2	131.1
1956	131.9	129.3	133.9	153.7	136.8
1957	163.9	162.5	164.8	165.8	175.0
1958	192.2	199.4	186.8	185.2	222.1
1959	210.7	218.4	204.8	197.2	258.8
1960	219.5	228.1	212.9	205.0	256.1

[a]Annual averages. Original base year, 1952 = 100. For methods of computation and weighting, see text. Source: Banco de la República, XXXVIII y XXXIX Informe Anual del Gerente a la Junta Directivo, Segunda Parte, (Bogotá: Talleres Gráficos, 1963), pp. 244-247.

TABLE A-1 -- Extension

Fuels and Lubricants	Animal and Vegetable Oils and Fats	Chemical Products	Manufactured Goods	Machinery and Transport Equipment	Various Manufactured Goods
100.0	100.0	100.0	100.0	100.0	100.0
107.1	95.3	101.4	110.4	101.7	100.5
108.1	89.5	101.9	109.4	104.2	98.3
109.8	89.3	100.6	107.7	105.3	96.7
117.0	87.0	100.1	107.5	104.6	97.4
120.9	89.1	103.2	110.2	116.1	102.3
130.4	107.2	115.4	120.8	138.5	117.6
187.1	156.5	148.3	156.2	176.9	149.6
234.9	197.1	191.4	192.7	233.3	175.2
247.1	227.1	205.5	209.2	271.2	187.2
253.6	269.5	209.9	218.6	290.4	195.0

269 -- which are weighted in accordance with an estimated value of consumption in 1952.[1]

The prices of each commodity relate to the middle of the month. They are mailed to the Banco de la República by approximately 580 manufacturers, wholesalers and distributors in 10 major cities.[2]

There are two other Colombian wholesale-price indexes. The first is published in the Monthly Bulletin of Statistics as a "General Index" and in the International Monetary Fund's International Financial Statistics as a "Home and Import Goods Index." It refers to imports and domestically-produced goods for domestic consumption. This index may be found in Table A-2. The second, also published in the I.F.S., is an index of "Home Goods" only. This index was initiated in 1952.

The accuracy of the official wholesale-price index in stating actual wholesale prices in Colombia may be best evaluated by the creation of an implicit index of wholesale prices. The implicit index may then be compared to the official index. This type of index may be created by comparing a time series of the peso-values of production (adjusted for foreign trade) in the economy, in index-number form, to

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[1]For a completely detailed breakdown of the official wholesale-price index by major and minor classifications and by individual commodity, see Banco de la República, XXXVIII y XXXIX Informe Anual del Gerente a la Junta Directiva, Segunda Parte, (Bogotá: Talleres Gráficos, 1963), pp. 244-247.

[2]United Nations, Statistical Office, Supplement to the Monthly Bulletin of Statistics, Third Issue (New York: 1954), and United Nations, Statistical Office, Supplement to the Monthly Bulletin of Statistics, Fourth Issue, (New York: 1959).

TABLE A-2

GENERAL OR HOME AND IMPORT GOODS
WHOLESALE PRICE INDEX, 1950-1960[a]
(1950 = 100)

Year	General And Home And Import Goods
1950	100.0
1951	108.0
1952	106.8
1953	113.6
1954	121.6
1955	122.7
1956	133.0
1957	164.8
1958	193.2
1959	212.5
1960	220.5

[a]Annual indexes are averages of four quarters. Original base years 1953 = 100 and 1958 = 100. Source: International Monetary Fund, International Financial Statistics (1950-1961).

a time series of the volume of production (adjusted for foreign trade) in the economy, also in the form of index numbers. A division of the value indexes by the volume indexes will yield an implicit price index.[3]

The creation of an implicit price index with this method rests on the price-quantity side of the Equation of Exchange, MV = PQ. Taking PQ to represent the value of the goods and commodities included in the sample and Q to represent the quantity or volume of the same

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[3]This methodology was developed, with excellent results in a study of the German economy by John J. Klein, "German Money and Prices, 1932-1944," Studies in the Quantity Theory of Money, edited by Milton Friedman, (Chicago: The University of Chicago Press, 1956), pp. 121-159.

goods and commodities, by dividing the first by the second a price index may be derived. Symbollically, it may be stated

$$\frac{P \times Q}{Q} = P.$$

P represents the implicit price index.

A composite value index representing P x Q and a composite volume index representing the quantity, Q, of the same goods included in the value index must be derived.

The only reliable and comprehensive series of production volumes and values are those of the National Manufacturing Industry (Industria Manufacturera Nacional). These statistics include the value in current pesos of all industrial activity and the volume of production in physical units (grams, kilograms, etc.).

This series of data begins with 1953. In that year a thorough industrial census was taken without discrimination according to size of output or number of employees. Since that time, except for 1954, an industrial survey has been made during every year. These surveys have had various minimum cut-off points, e.g., in 1960 only those firms employing 5 or more workers or with an output of PS $24,000 [approximately U.S. $2,400] or more were included.[4] Even so, these surveys have consistently included 10,000 to 11,500 firms.

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[4] Boletín Mensual de Estadística, Ano XII, Número 151 (Octubre, 1963). For a detailed description of the 1953 census and the 1955, 1956, 1957, 1958 and 1959 surveys, see Banco de la República, Departamento de Investigaciones Económicas, Conceptos, Definiciones y Metodología de las Cuentas Nacionales de Colombia, 1950 - 1961, (Bogotá: Banco de la República, 1963), pp. 103-111.

Value and volume data of industrial output do exist prior to 1953. However, the validity of these early statistics is dubious. Most certainly they differ widely from the 1953 and subsequent series in grouping of items, calculation of weights and scope of coverage. Therefore, it was decided not to try to link these data with the later series.

Fortunately, the scope of the data contained in the industrial series since 1953 is quite large. Since the purpose of this section is to compare the official wholesale-price index to the implicit price index generated from the value and volume information, it is essential that the industrial series contain at least those commodities included in the official wholesale-price index. Actually, approximately)00 different types of goods are contained in the industrial series. However, the scope of the two series are not widely dissimilar because the categories of goods contained in the official index are more broadly defined than those of the industrial series.

Based on the industrial series, the production value of all goods was first put into index number form, by category and by grand total. Nineteen hundred and fifty three was taken to be 100 because it is both the first year in the series and because the 1953 data is based on a complete industrial census. The index numbers refer to gross value of production at production source minus additions to inventory or plus decreases in inventory. The results of this process are given in Table A-3.

TABLE A-3

PRODUCTION VALUE BY CATEGORY OF GOOD AND FOR ALL GOODS, 1953, 1955-1960[a]

FOODSTUFFS

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Production Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
1953	1575.3	16.0	1559.3	100.0
1955	1673.0	8.5	1664.5	106.7
1956	2176.2	39.6	2136.6	137.0
1957	2546.9	87.5	2459.4	157.7
1958	2694.7	127.0	2567.7	164.7
1959	2931.2	35.6	2895.6	185.7
1960	3223.8	111.7	3112.1	199.6

[a]Sources; Departamento Administrativo Nacional de Estadística, Anuario General de Estadística, Colombia (Annual editions, 1952 to 1960) (Bogotá: Multilith Estadinal, 1954-1962). Boletín Mensual de Estadística (1950-1961).

[b]In millions of current pesos. Gross production is gross value of output at production source (factory, farm, etc.). It is composed of intermediate consumption plus value added.

[c]In millions of current pesos. Inventory changes between January 1 and December 31.

[d]In millions of current pesos. Gross productions minus additions to inventory plus decreases in inventory.

TABLE A-3 -- Continued

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Production Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
		BEVERAGES		
1953	470.0	-.7	470.7	100.0
1955	553.5	5.4	548.1	116.4
1956	534.9	20.7	514.2	109.2
1957	699.7	18.1	681.6	144.8
1958	819.2	31.0	788.2	167.5
1959	939.5	59.5	880.0	187.0
1960	1124.3	32.1	1092.2	232.0
		TOBACCO		
1953	94.8	3.1	91.7	100.0
1955	208.1	1.4	206.7	225.4
1956	234.2	12.9	221.3	241.3
1957	269.2	25.2	244.0	266.1
1958	295.1	10.8	284.3	310.0
1959	322.5	11.4	311.1	339.3
1960	347.4	-2.9	350.3	382.0
		TEXTILES		
1953	547.7	3.3	544.4	100.0
1955	696.4	20.0	674.4	123.9
1956	787.5	76.8	710.7	130.5
1957	990.8	61.0	929.8	170.8
1958	1291.4	30.5	1260.9	231.6
1959	1637.1	101.9	1535.2	282.0
1960	1828.7	77.1	1751.6	321.7

TABLE A-3 -- Continued

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Production Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
		CLOTHING GOODS		
1953	251.2	7.8	243.4	100.0
1955	263.0	6.7	256.3	105.3
1956	343.6	19.6	324.0	133.1
1957	451.9	18.6	433.3	178.0
1958	499.7	2.3	497.4	204.4
1959	584.6	19.6	565.0	232.1
1960	631.6	31.2	600.4	246.7
		WOOD, CORK AND WOODEN FURNITURE		
1953	67.7	2.8	62.9	100.0
1955	75.2	3.6	71.6	113.8
1956	98.2	8.2	90.0	143.1
1957	137.5	3.6	133.9	212.9
1958	156.5	4.3	152.2	242.0
1959	169.8	6.1	163.7	260.3
1960	192.0	5.4	186.6	296.7
		PAPER AND PAPER PRODUCTS		
1953	30.3	-.4	30.7	100.0
1955	59.6	1.0	58.6	190.9
1956	67.8	1.9	65.9	214.7
1957	104.8	4.3	100.5	327.4
1958	141.2	-.3	141.5	460.9
1959	179.7	8.3	171.4	558.3
1960	227.5	9.8	217.7	709.1

TABLE A-3 -- Continued

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Production Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
PRINTING, ENGRAVING, ETC.				
1953	71.2	.1	71.1	100.0
1955	119.3	1.7	117.6	165.4
1956	120.1	1.9	118.2	166.2
1957	166.4	7.5	158.9	223.5
1958	184.4	2.2	182.2	256.3
1959	204.7	2.2	202.5	284.8
1960	254.0	16.6	237.4	333.9
LEATHER AND LEATHER PRODUCTS				
1953	71.5	.5	71.0	100.0
1955	80.2	.8	79.4	111.8
1956	96.6	8.2	88.4	124.5
1957	123.4	4.7	118.7	167.2
1958	137.1	-.3	137.4	193.5
1959	182.8	9.5	173.3	244.1
1960	183.5	2.8	180.7	254.5
RUBBER PRODUCTS				
1953	64.0	2.7	61.3	100.0
1955	81.3	10.4	70.9	115.7
1956	114.7	17.5	97.2	158.6
1957	165.2	21.2	144.0	234.9
1958	187.9	15.4	172.5	281.4
1959	208.1	-3.7	211.8	345.5
1960	254.5	16.6	237.9	388.1

TABLE A-3 -- Continued

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Productions Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
		CHEMICALS		
1953	167.3	1.2	166.1	100.0
1955	210.4	15.0	195.4	117.6
1956	277.7	38.2	239.5	144.2
1957	484.5	62.3	422.2	254.2
1958	642.1	73.2	568.9	342.5
1959	764.4	36.7	727.7	438.1
1960	913.4	46.9	866.5	521.7
		PETROLEUM AND COAL PRODUCTS		
1953	88.8	1.5	87.3	100.0
1955	133.5	5.2	128.3	147.0
1956	169.5	10.6	158.9	182.0
1957	316.5	29.6	286.9	328.6
1958	506.3	9.4	496.9	569.2
1959	580.6	27.7	552.9	633.3
1960	636.3	4.1	632.2	724.2
		NON-METALLIC MINERALS		
1953	156.0	-.7	156.7	100.0
1955	201.2	7.5	193.7	123.6
1956	239.5	18.7	220.8	140.9
1957	295.2	23.0	272.2	173.7
1958	321.0	17.2	303.8	193.9
1959	425.7	9.9	415.8	265.3
1960	494.3	26.2	468.1	298.7

TABLE A-3 -- Continued

Year	Gross Production Value[b] (1)	Change in Inventory[c] (2)	Gross Production Value + or - Change in Inventory[d] (3)	Column (3) 1953 = 100 (4)
BASIC METAL INDUSTRY				
1953	21.1	1.5	19.6	100.0
1955	61.5	6.1	55.4	282.7
1956	222.5	22.4	200.1	1020.9
1957	308.7	37.3	271.4	1384.7
1958	360.8	53.5	307.3	1567.9
1959	377.6	2.6	275.0	1403.1
1960	554.3	-16.5	570.8	2912.2
MECHANICAL, METALLURGICAL AND DIVERSE INDUSTRIES				
1953	165.4	6.4	159.0	100.0
1955	270.8	20.4	250.4	157.5
1956	330.7	19.6	311.1	195.7
1957	501.3	60.2	441.1	277.4
1958	701.0	32.8	668.2	420.3
1959	920.4	46.9	873.5	549.4
1960	1153.5	89.8	1063.7	669.0
ALL PRODUCTION				
1953	3840.2	45.2	3795.0	100.0
1955	4687.2	117.7	4569.5	120.4
1956	5813.7	316.7	5497.0	144.8
1957	7562.0	464.2	7097.0	187.0
1958	8938.4	409.1	8529.3	224.8
1959	10,428.9	374.1	10,054.8	264.9
1960	12,019.2	450.9	11,568.3	304.8

Next, a series representing the volume of production was generated. The goods and commodities included and the categories developed are identical to those in the value of production series. The original production volume statistics, as determined in the 1953 census and subsequent surveys, were gathered and stated in terms of physical units (grams, kilograms, etc.). However, the Banco de la República has grouped these data and placed them in the form of index numbers. The method of weighting each good within the 20 categories was the base-year method, weights pertaining to the total value added in the production of each type[5] of good. Table A-4 contains the results thus obtained. These index numbers were derived from unweighted, or simple arithmetic averaging of all categories. Only within each category have the individual items been weighted.

A method of weighting each category of goods was then developed. The weights used in the official wholesale-price index could not be used because the grouping of goods into various categories is completely distinct from those groups of goods so far used in developing the implicit price index.

The method of establishing the weights used in the calculation of the implicit price index was to assign to each economic sector the same weight as the contribution of each sector to total value of production in 1953, i.e., base-year value weighting. "Value of production"

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[5]Banco de la República, Conceptos, Definiciones y Metodología, p. 63.

TABLE A-4

PRODUCTION VOLUME BY CATEGORY OF GOOD AND FOR ALL GOODS, 1953, 1955 - 1960[a] (1953 = 100)

Year	Foodstuffs	Beverages	Tobacco	Textiles
1953	100.0	100.0	100.0	100.0
1955	121.4	101.8	103.9	130.8
1956	129.4	100.6	110.7	132.5
1957	124.8	108.5	116.7	136.3
1958	129.7	113.5	117.8	145.1
1959	141.5	122.7	120.8	158.2
1960	148.0	128.4	125.7	172.7

Year	Clothing Goods	Wood, Cork and Wooden Furniture	Paper and Paper Products	Printing, Engraving, Etc.
1953	100.0	100.0	100.0	100.0
1955	127.3	101.1	127.6	125.8
1956	143.4	134.0	137.7	148.3
1957	148.3	151.2	147.1	143.3
1958	149.0	155.8	146.2	132.3
1959	168.0	158.4	173.1	137.0
1960	183.5	159.2	203.4	136.8

[a]Original base year 1958 = 100. For methods of computation and weighting see text. Source: "Cuentas Nacionales, 1950 - 1961" (Departamento de Investigaciones Económicas, Banco de la República), p. 24. (Mimeographed.)

TABLE A-4 -- Continued

Year	Leather and Leather Products	Rubber Products	Chemicals	Petroleum and Coal Products
1953	100.0	100.0	100.0	100.0
1955	102.6	140.0	130.5	130.2
1956	116.6	167.0	139.7	141.5
1957	127.1	173.6	154.2	171.5
1958	121.5	174.8	162.9	209.6
1959	112.3	182.9	188.9	217.4
1960	115.2	208.6	199.2	238.4

Year	Non-Metallic Minerals	Basic Metal Industry	Mechanical, Metallurgical and Diverse Industries	All Production
1953	100.0	100.0	100.0	100.0
1955	110.4	638.7	130.2	119.9
1956	135.7	840.9	166.1	129.9
1957	126.9	1034.4	203.7	136.3
1958	123.9	1075.3	243.9	143.1
1959	151.8	981.7	293.9	156.9
1960	148.0	1329.0	330.7	167.8

is to be understood as gross production minus additions to inventory or plus decreases in inventory.[6] The weights developed in this manner may be found in Table A-5.

From the three series now developed in this section an implicit index of Colombian prices at the wholesale level may be derived. Both a production value and a production volume series, appropriately weighted, by category of goods and for all goods has been constructed. These are contained in Tables A-6 and A-7. Dividing the value series for all goods by the volume series for all goods yields an implicit price index for all goods, shown in Table A-8.

Table A-8 shows that the value of all production increased more rapidly than the volume of all production. This means that the price level rose during the period. However, after converting the official wholesale-price index onto a base-year of 1953, it is apparent that the official index does not understate the rise in prices when viewing the period 1953 to 1960 as a whole. In fact, the price rise was slightly overstated in relation to the implicit price index.

Prior to 1956, however, there was a notable discrepancy between the two series which may have arisen either from inaccuracies in the data used to compute the implicit price index or from errors in the official index. In any case, the two indexes indicate closely parallel upward trends since 1956. This is strong evidence supporting the

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[6]This method of weighting the data contained in the production value and production volume tables assumes that the ratio of the volume of production of each category of goods to volume of all goods is the same as the ratio of the value of each category of goods to the value of all goods.

TABLE A-5

WEIGHTS APPLICABLE TO THE IMPLICIT PRICE INDEX[a]

Foodstuffs	41.08
Beverages	12.40
Tobacco	2.42
Textiles	14.34
Clothing Goods	6.41
Wood, Cork and Wooden Furniture	1.66
Paper and Paper Products	.81
Printing, Engraving, etc.	1.87
Leather and Leather Products	1.87
Rubber Products	1.62
Chemicals	4.38
Petroleum and Coal Products	2.30
Non-Metallic Minerals	4.13
Basic Metal Industry	.52
Mechanical, Metallurgical and Diverse Industries	4.19
All Production	100.00

[a]For method of computation see text.

TABLE A-6

WEIGHTED PRODUCTION VALUE BY CATEGORY OF GOOD AND FOR ALL GOODS, 1953, 1955-1960[a]
(1953 = 100)

Year	Foodstuffs	Beverages	Tobacco	Textiles
1953	41.08	12.40	2.42	14.34
1955	43.83	14.43	5.45	17.77
1956	56.28	13.54	5.84	18.71
1957	64.78	17.96	6.44	24.49
1958	67.66	20.78	7.50	33.21
1959	76.29	23.19	8.21	40.44
1960	82.00	28.77	9.24	46.13

Year	Clothing Goods	Wood, Cork and Wooden Furniture	Paper and Paper Products	Printing, Engraving, Etc.
1953	6.41	1.66	.81	1.87
1955	6.75	1.89	1.55	3.09
1956	8.53	2.38	1.74	3.11
1957	11.41	3.53	2.65	4.18
1958	13.10	4.02	3.73	4.79
1959	14.88	4.32	4.52	5.33
1960	15.81	4.93	5.74	6.24

[a]For method of computation, see text. Calculated from Tables A-3 and A-5.

TABLE A-6 -- Continued

Year	Leather and Leather Products	Rubber Products	Chemicals	Petroleum and Coal Products
1953	1.87	1.62	4.38	2.30
1955	2.09	1.87	5.15	3.38
1956	2.33	2.57	6.32	4.19
1957	3.13	3.81	11.13	7.56
1958	3.62	4.56	15.00	13.09
1959	4.56	5.60	19.19	14.57
1960	4.76	6.29	22.85	16.66

Year	Non-Metallic Minerals	Basic Metal Industry	Mechanical, Metallurgical and Diverse Industries	All Production
1953	4.13	.52	4.19	100.0
1955	5.10	1.47	6.60	120.4
1956	5.82	5.31	8.20	144.8
1957	7.17	7.20	11.62	187.0
1958	8.01	8.15	17.61	224.8
1959	10.96	7.30	23.02	264.9
1960	12.34	15.14	28.03	304.8

TABLE A-7

WEIGHTED PRODUCTION VOLUME BY CATEGORY OF GOOD AND FOR ALL GOODS, 1953, 1955-1960[a]
(1953 = 100)

Year	Foodstuffs	Beverages	Tobacco	Textiles
1953	41.08	12.40	2.42	14.34
1955	49.87	12.62	2.51	18.76
1956	53.16	12.47	2.68	19.00
1957	51.27	13.45	2.82	19.55
1958	53.28	14.07	2.85	20.81
1959	58.13	15.21	2.92	22.69
1960	60.80	15.92	3.04	24.77

Year	Clothing Goods	Wood, Cork and Wooden Furniture	Paper and Paper Products	Printing, Engraving, Etc.
1953	6.41	1.66	.81	1.87
1955	8.16	1.69	1.03	2.35
1956	9.19	2.22	1.12	2.77
1957	9.51	2.51	1.19	2.68
1958	9.55	2.59	1.18	2.47
1959	10.77	2.63	1.40	2.56
1960	11.76	2.64	1.65	2.56

[a]For method of computation, see text. Calculated from Tables A-4 and A-5.

TABLE A-7 -- Continued

Year	Leather and Leather Products	Rubber Products	Chemicals	Petroleum and Coal Products
1953	1.87	1.62	4.38	2.30
1955	1.92	2.27	5.72	2.99
1956	2.18	2.71	6.12	3.25
1957	2.38	2.81	6.75	3.94
1958	2.27	2.83	7.14	4.82
1959	2.10	2.96	8.27	5.00
1960	2.15	3.38	8.72	5.48

Year	Non-Metallic Minerals	Basic Metal Industry	Mechanical, Metallurgical and Diverse Industries	All Production
1953	4.13	.52	4.19	100.00
1955	4.56	3.32	5.46	123.23
1956	5.60	4.37	6.96	133.80
1957	5.24	5.38	8.54	138.02
1958	5.12	5.59	10.22	144.79
1959	6.27	5.10	12.31	158.32
1960	6.11	6.91	13.86	169.75

TABLE A-8

PRODUCTION VALUE AND PRODUCTION VOLUME INDEXES FOR ALL GOODS, THE IMPLICIT PRICE INDEX, AND THE OFFICIAL WHOLESALE PRICE INDEX, 1953, 1955-1960[a]
(1953 = 100)

Year	Production Value for All Goods (1)	Production Volume for All Goods (2)	Implicit Price Index [Col. (1) ÷ Col. (2)] (3)	Official Wholesale Price Index (4)
1953	100.0	100.0	100.0	100.0
1955	120.4	123.2	97.7	107.8
1956	144.8	133.8	108.2	116.9
1957	187.0	138.0	135.5	145.3
1958	224.8	144.8	155.2	170.4
1959	264.9	158.3	167.3	186.8
1960	304.8	169.8	179.6	194.6

[a]Calculated from Tables A-1, A-6 and A-7.

accuracy of the official wholesale-price index in portraying actual wholesale price levels in Colombia since 1956.

The implicit price index may be assumed to reflect the price movements of numerous types of goods which are not included in the official wholesale-price index. Goods characterized by an artifically-constrained supply, decreasing quality, and new goods not included in the official index are all partly reflected in the implicit price index.

We may now describe the official Consumer Price Index and draw a brief comparison between it and the official wholesale-price index.

The consumer price index, originally called the cost of living index, first made its appearance in Colombia in 1937. At this time the only index which was computed applied to a wage-earners' family in Bogotá composed of five persons. (The term "wage-earner" or "obrero" refers to non-salaried workers as opposed to salaried employees, called "empleados.") The index was based on a family living study conducted in Bogotá in September, 1936.

The index contained 38 items, weighted as follows: food, 65.7; housing, water and light, 16.2; fuel, 5.8; clothing, 5.4; miscellaneous, 6.9. Two hundred and nine stores were surveyed weekly which were situated in those areas of the city where they would be patronized by working class families, plus clothing data from 16 stores in the central market area of Bogotá and rental data from 375 wage-earners' dwellings. As late as 1953, although the number of items in the index had been

increased to 55, the percentage weights remained identical to those of the 1937 index, based on the 1936 survey.

Prior to 1953, six more similar indexes had been designed: 1938, Medellín, "obreros"; 1940, Bogotá, "empleados"; 1945, Bucaramanga, "obreros"; 1946, Barranquilla, "obreros"; 1947, Manizales, "obreros"; 1948, Cali, "obreros."

In 1953 the consumer price index was thoroughly revised, although the new index retains the Laspeyres' formula which had been used in the computation of the previous indexes. The revisions of 1953 are still in effect.

The Bogotá wage-earners", or "obrero," index now pertains to a family of three persons. The weights are derived from a household budget survey conducted in August, 1953 among 212 families in Bogotá by the Departamento Administrativo Nacional de Estadística. The number of items in each group and their corresponding weights are as follows: food, 32 items, 48.8 per cent; housing, 21 items, 21.8 per cent; clothing, 21 items, 12.2 per cent; miscellaneous, 33 items, 17.2 per cent. Prices are collected twice a month from stores in residential areas and commercial centers.[7]

Since the 1953 reforms consumer price indexes have been computed for seven major Colombian cities and for both salaried and non-salaried

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[7]The information in this section was gathered from the following sources: United Nations, Statistical Office, Monthly Bulletin of Statistics, 1948 Supplement; United Nations, Statistical Office, Supplement to the Monthly Bulletin of Statistics, Fourth Issue (New York: 1959) Boletín Mensual de Estadística, Ano IV Número 46 (Enero, 1955); Boletín Mensual de Estadística, Ano VI, Número 58 (Enero, 1956).

workers. Also added were national indexes, for both types of workers, based on the indexes of the seven cities. However, since index numbers under this new system first appeared in 1954, they must be linked to earlier series to obtain a complete series for the decade of the 1950's.

Unfortunately, national indexes did not exist prior to 1954, thus precluding a national series for the decade. For this reason the most frequently seen consumer price index is actually the Bogotá non-salaried workers' index, although this qualification is not usually made explicit when used in non-Colombian sources.[8] Table A-9 summarizes the Bogotá non-salaried workers' (or wage-earners') index, as well as those of two other major Colombian cities for purposes of comparison.

Although a national index for consumer prices does not exist prior to 1954, we may use the two national indexes since 1954, and compare them to the official wholesale-price index since 1954. This comparison is made in Table A-10. From the comparison made in Table A-10, it is clear that the official wholesale-price index has tended to rise slightly more rapidly, at least since 1954, than the consumer price indexes.

Under conditions of relative monetary stability the index of consumer prices would normally tend to rise gradually relative to wholesale prices. This relationship is due, in part, to the fact that a consumer price index contains a greater proportion of services and

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[8]cf. United Nations, Statistical Office, Monthly Bulletin of Statistics (1950-1961).

TABLE A-9

CONSUMER PRICE INDEX FOR NON-SALARIED WORKERS IN THREE MAJOR CITIES, 1950-1960[a] (1950 = 100)

Year	Bogotá[b]	Bucaramanga[c]	Medellín[d]
1950	100.0	100.0	100.0
1951	109.0	116.4	111.5
1952	106.4	113.8	106.7
1953	121.0	127.5	117.1
1954	122.2	141.7	131.9
1955	124.3	141.4	129.4
1956	132.4	146.3	137.4
1957	152.5	169.9	159.7
1958	174.8	197.7	179.8
1959	187.4	218.9	196.0
1960	194.6	234.9	210.6

[a]All indexes are annual averages, except 1953 and 1954 which are for December. Sources: Boletín Mensual de Estadística (1950-1961); Anales de Economía y Estadística, Número 74, (Abril - Junio, 1952); Departamento Administrativo Nacional de Estadística, Anuario General De Estadística, Colombia, (Annual editions, 1952-1960) (Bogotá: Multilith Estadinal, 1954-1962).

[b]Original base years February 1937 = 100 and July 1954 - June, 1955 = 100.

[c]Original base years September, 1945 = 100 and July, 1954 - June, 1955 = 100.

[d]Original base years May, 1938 = 100 and July, 1954 - June, 1955 = 100.

TABLE A-10

NATIONAL CONSUMER PRICE INDEX FOR SALARIED AND NON-SALARIED WORKERS, AND OFFICIAL WHOLESALE PRICE INDEX, 1954-1960
(1954 = 100)

Year	National Consumer Price Index Salaried Workers[a]	National Consumer Price Index Non-Salaried Workers[a]	Official Wholesale Price Index[b]
1954	100.0	100.0	100.0
1955	101.4	100.2	100.7
1956	106.5	105.7	109.3
1957	122.5	124.1	135.8
1958	138.6	140.5	159.2
1959	150.4	152.1	174.6
1960	159.4	160.7	181.9

[a]Sources: Boletín Mensual de Estadística (1954-1961).

[b]Calculated from Table A-1.

rents than does a wholesale-price index, and that productivity in the service industries, and perhaps in constructuion increases at a rate, on the average, less than that of the economic sectors emphasized in a wholesale price index.[9]

This "normal" secular relationship between wholesale and retail prices can be reversed in a period of prolonged inflation. In fact, due to the greater sensitivity of the wholesale index to price changes, it would be abnormal if the normal relationship were maintained through

[9]E M. Berstein, "Wage-Price Links in a Prolonged Inflation," International Monetary Fund Staff Papers, V-VI (1956-1958), 339.

a period of secularly-rising prices. Price rises are often very sluggish in certain economic sectors -- particularly services, rents and public utilities -- which are important in the consumer index but excluded from the wholesale index, or included with a much lower weight.

Thus, in an indirect fashion we have another verification of the official wholesale-price index. The greater increase in the wholesale-price index relative to the consumer price index is what we should expect, given the nature of index numbers and the context of secular inflation.

The greater sensitivity of the wholesale price index is an important advantage over the consumer price index. Other advantages of the wholesale index over the consumer index, which have prompted us to use it exclusively in this study, are its greater continuity and definiteness in the specification of the goods prices; the predominance of working-class budgets as the basis of the reail indexes;[10] the lack of any national consumer price index prior to 1954; and the lack of data at the retail level with which to compute an implicit price index.

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[10]See R. G. Hawtrey, "Money and Index-Numbers," Readings in Monetary Theory, edited by American Economic Association (Homewood, Illinois: Richard D. Irwin, 1951), pp. 129-155, for an excellent survey of the intent and purposes of price indexes, as well as the relative advantages of each type.

APPENDIX B

In 1963 the first integrated and comprehensive system of national income accounting in Colombia was completed.[1] The accounts themselves span the years 1950 to 1961, and mark a considerable advance over earlier national income data.[2] The new system should prove to be a valuable tool in the hands of Colombian policymakers.

The main concepts used in the 1963 national accounts require some explanation. The system may be best explained by beginning with the broadest concept of income and descending to the narrowest.

The most inclusive income concept is Gross National Product (G.N.P.) at market prices (Producto Nacional Bruto a precios de mercado).

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[1]Banco de la República, Departamento de Investigaciones Económicas, Conceptos, Definiciones y Metodología de las Cuentas Nacionales de Colombia, 1950-1961 (Bogotá: Banco de la República, 1963); and "Cuentas Nacionales, 1950-1961" (Departamento de Investigaciones Económicas, Banco de la República) (Mimeographed.)

[2]Earlier Colombian national income data, while being neither as comprehensive nor as internally consistent as the new accounts, were invariably expressed in terms of constant pesos, and usually in constant pesos of the year in which the data was published. Hence, the process of obtaining income expressed in terms of current pesos instead of constant pesos was exceedingly difficult, and made more so by the failure to make public the conversion factors applied in revising the data each year. The usual result was that several different estimates of national income were in print simultaneously, and the student was confronted with conflicting statistics all purporting to be the level of Colombian national income. [cf. International Monetary Fund, International Financial Statistics (1950-1961); United Nations, Statistic Office, Monthly Bulletin of Statistics (1950-1961).]

This concept, however, has not achieved wide popularity. Some reluctance on the part of students and government offices to use this measure may stem from the fact that, while it is the broadest concept, it is not the largest in terms of peso-value.

The most common aggregative income measure, adopted almost universally by students of the Colombian economy and widely used throughout Latin America, is Gross Domestic Product (G.D.P.) at market prices (Producto Interno Bruto). This measure is obtained by subtracting from G.N.P. an account called "Net Income of Factors of Production Received from the Rest of the World." This account is composed of income of Colombians earned abroad minus income of foreigners earned in Colombia, which may be viewed as the total of income earned by foreign suppliers of factors of production used in Colombia plus income receipts of foreigners living in Colombia. In practice, this account is dominated by income generated from foreign capital invested in Colombia (e.g., interest, dividends, and branch profits).

Because income payments to foreigners exceeded foreign incomes earned by Colombians in every year from 1950 to 1961, the net correction between G.N.P. and G.D.P. has consistently been negative. Since this correction factor is subtracted from G.N.P. to obtain G.D.P., it follows that G.D.P. exceeded G.N.P. by this amount.

The new system of income accounts differentiates the concept of Gross Domestic Product into the traditional sectors of national income accounting, with slight modifications: consumption, separated into public and private; investment, considered as the sum of gross

capital formation and inventory change; and the foreign sector, exports minus imports. Unfortunately, in this system of accounts, government investment is given only as a percentage of all investment and inventory change.

In moving from Gross Domestic Product at market prices to the next more restrictive income concept it is necessary to subtract indirect taxes and add government subsidies. This yields Gross Domestic Product at factor cost (Producto Interno Bruto al costo de factores). From G.D.P. at factor cost an allowance for capital consumption is subtracted to obtain Net Domestic Product (N.D.P.) at factor cost (Producto Interno Neto al costo de factores).

The last concept is Net National Product (N.N.P.) at factor cost (Producto Nacional Neto al costo de factores), which is also known in the accounts as National Income (Ingreso Nacional). This concept is equal to Net Domestic Product plus Net Income of Factors of Production Received From the Rest of the World. Since this factor has been, as we have seen, consistently of a negative value, N.D.P. has always been larger than N.N.P. by this amount.

Thus it is clear that the significant difference between the "Domestic" and the "National" concepts of aggregative income and product lies in the exclusion or inclusion of the net adjustment for foreign incomes.

The last significant aspect of the new national accounts to require special comment is the derivation and presentation of four special accounts which express income in "Real" terms, or in terms of

pesos of constant value. Real and constant-peso values are regarded in these accounts as synonymous.

The first real income concept contained in the accounts is Gross Domestic Real Product (G.D.R.P.) at market prices (Producto Interno Bruto Real a precios de mercado), expressed in terms of 1958 pesos. This is equivalent to G.D.P. concept discussed above except for the conversion of all values to 1958 pesos.

Of more interest, however, is Gross Domestic Real Income (G.D.R.I.) (Ingreso Bruto Interno Real). This concept has no counterpart in the income accounts expressed in current-value pesos. This account is the sum of G.D.R.P. at market prices plus the "terms of trade effect" (Ganancia o Perdida Por Variación De La Relación De Intercambio). As constructed, this correction factor is equal to the gain or loss resulting from changes in the terms of trade relative to the base year (1958). It has been calculated so as to equal the product of the value of export goods and services, expressed in values of the base year, and the change in the terms of trade (letting the terms of trade equal 100 in the base year). The terms of trade are derived as the ratio of the unit value index of exports to the unit value index of imports. The sign of this account is positive in every year prior to 1958 and negative in every year since 1958, reflecting the inflation of current-peso values prior to 1958 and the deflation of these values after the base year.

The pattern used in the development of the real income concepts returns to the precedent set in the current-peso accounts after the

inclusion of the terms of trade factor. Gross National Real Product (G.N.R.P.) at market prices (Producto Bruto Nacional Real a precios de mercado) is equal to Gross Domestic Real Product at market prices in constant pesos, plus or minus the terms of trade effect, plus Net Income of Factors of Production Received From the Rest of the World, also expressed in pesos of 1958.

The last real income concept contained in the new accounts is Gross Domestic Real Product at factor cost, which is equal to G.D.R.P. at market prices minus the adjusted value of Indirect Taxes plus the adjusted value of Subsidies. (This is, it will be remembered, the same method used in the current-peso value accounts.)

From G.D.R.P. at factor cost it is possible to independently derive Real National Income, expressed in pesos of 1958. This may be readily done by subtracting from G.D.R.P. at factor cost an allowance for capital consumption and adding the net adjustment for foreign incomes earned, both expressed in constant pesos.

APPENDIX C

TABLE C-1
THE DETERMINANTS OF THE MONEY SUPPLY,
ON DECEMBER 31, 1949-1960[a]
(in millions of pesos)

	1949
INTERNATIONAL RESERVES[b]	233.0
BANCO DE LA REPÚBLICA	258.8
Credit	302.6
Loans and Discounts	161.2
Shareholding Banks	132.7
Non-shareholding Banks	40.9
Private Borrowers	21.7
National Government and Other Official Entities	48.8
Minus: Loans and Discounts in Banco de la República[c]	82.9
Investment in Documents of Public Debt	141.4
Other Assets[d]	126.7
Minus: Non-monetary Liabilities	170.5
Order Deposits of Non-shareholding Banks	8.0
Order Deposits of Juridical Entities and other Official Entities, and Other Official Deposits[e]	14.7
Various Credits[f]	18.5
Capital and Reserves[g]	33.4
Other Liabilities[h]	95.9
OTHER BANKING INSTITUTIONS[i]	402.1
Credit	762.8
Total Loans[j]	576.4
Various Debts Outstanding	21.0
Investments	165.4
Other Assets[k]	156.1
Minus: Non-monetary Liabilities	516.8
Order Deposits[l]	94.1
Term Deposits	55.8
Savings Deposits	90.2
Capital and Reserves[m]	179.4
Other Liabilities[n]	97.3
TREASURY CURRENCY	36.3
TOTAL STOCK OF MONEY	930.2

TABLE C-1 -- Extention

1950	1951	1952	1953	1954
206.2	257.1	326.0	395.0	525.7
227.6	260.1	284.6	249.0	345.2
282.1	239.1	342.4	322.4	506.4
137.1	73.9	158.5	57.0	195.3
197.8	195.0	264.2	273.0	298.9
27.8	16.4	14.3	12.3	10.9
42.8	54.4	124.1	46.7	155.7
7.2	3.5	21.5	-	31.7
138.5	195.4	265.6	275.0	301.9
145.0	165.2	183.9	265.4	311.1
135.4	204.0	143.1	145.9	158.3
189.9	183.0	200.9	219.3	319.5
12.5	14.0	23.1	31.8	40.4
23.2	13.4	9.9	10.1	12.8
16.8	11.0	16.7	15.3	20.6
39.3	40.3	43.6	50.5	67.4
98.1	104.3	107.6	111.6	178.3
574.7	588.3	802.7	963.5	1160.9
967.8	1124.4	1379.2	1622.0	2155.7
744.3	879.5	1056.0	1229.7	1592.8
44.7	60.4	111.3	130.8	229.1
178.8	184.5	211.9	261.5	333.8
226.6	239.7	263.2	290.0	528.4
619.7	775.8	839.7	948.5	1523.2
106.0	145.8	128.6	123.7	261.2
80.8	116.5	126.1	137.8	258.4
105.9	136.6	174.4	204.4	261.0
217.2	254.5	250.9	293.5	430.1
109.8	122.4	159.7	189.1	312.5
36.8	28.0	29.3	31.4	33.7
1045.3	1133.5	1442.6	1638.9	2065.5

TABLE C-1 -- Continued

	1955
INTERNATIONAL RESERVES[b]	297.5
BANCO DE LA REPÚBLICA	316.4
Credit	571.5
Loans and Discounts	145.7
Shareholding Banks	541.7
Non-shareholding Banks	9.5
Private Borrowers	65.2
National Government and Other Official Entities	75.0
Minus: Loans and Discounts in Banco de la República[c]	545.7
Investment in Documents of Public Debt	425.8
Other Assets[d]	157.5
Minus: Non-monetary Liabilities	412.6
Order Deposits of Non-shareholding Banks	20.6
Order Deposits of Juridical Entities and other Official Entities, and Other Official Deposits[e]	27.9
Various Credits[f]	110.5
Capital and Reserves[g]	87.0
Other Liabilities[h]	166.6
OTHER BANKING INSTITUTIONS[i]	1386.9
Credit	2562.4
Total Loans[j]	1892.6
Various Debts Outstanding	323.5
Investments	346.3
Other Assets[k]	600.2
Minus: Non-monetary Liabilities	1775.7
Order Deposits[l]	338.5
Term Deposits	288.1
Savings Deposits	306.0
Capital and Reserves[m]	537.6
Other Liabilities[n]	305.5
TREASURY CURRENCY	35.7
TOTAL STOCK OF MONEY	2036.5

TABLE C-1 -- Extention

1956	1957	1958	1959	1960
360.3	389.4	425.8	560.9	423.6
382.1	395.4	709.7	735.3	855.9
761.9	1446.2	1794.2	1746.7	1736.5
216.3	786.3	1108.4	1004.5	986.6
548.6	657.7	670.9	689.7	878.7
28.7	49.1	83.2	14.1	.5
84.6	447.4	742.0	664.1	643.7
128.8	336.6	366.2	340.5	312.8
574.4	704.5	753.9	703.9	849.1
545.6	659.9	685.8	742.2	749.9
202.5	386.4	516.1	785.6	896.9
582.3	1437.2	1600.6	1797.0	1777.5
16.5	15.0	31.9	42.2	43.9
20.9	366.3	568.5	759.9	835.6
164.1	261.6	156.3	143.5	81.3
136.3	144.4	192.8	205.1	210.9
244.5	649.9	651.1	646.3	605.8
1775.2	2071.4	2331.0	2545.6	2969.4
3292.2	3432.3	3757.0	4282.7	5083.5
2372.7	2456.4	2690.7	3031.4	3606.6
449.9	420.0	437.2	479.5	678.0
469.6	555.9	629.1	771.8	798.9
987.5	1231.9	1122.5	1116.7	1241.1
2504.5	2592.8	2548.5	2853.8	3355.2
615.5	377.0	420.8	525.6	537.6
400.2	324.0	256.0	292.3	467.0
365.6	434.0	509.0	586.9	628.9
618.1	704.3	731.8	792.1	877.6
505.1	753.5	630.9	656.9	844.1
38.1	43.6	54.2	64.2	63.0
2555.7	2899.8	3520.7	3906.0	4311.9

TABLE C-1
Notes to APPENDIX C

[a]Source: Revista del Banco de la República (1950-1961).

[b]Gold reserves; deposits of the central bank in banks abroad; and gold contribution to the International Money Fund.

[c]Obtained from the combined balance sheets of "other banking institutions."

[d]Contributions of the International Bank for Reconstruction and Development, the International Monetary Fund and the International Financial Corporation to the central bank; various debts; bank buildings; silver backing of the silver certificates; and other assets.

[e]"Order deposits of juridical entities and other official entities" was obtained by adding the "demand deposits of juridical entities and other official entities" [the sum of order and checking deposits] plus "order deposits of the national government," and from this total subtracting "demand deposits of the national government and other official entities subject to check." "Other official deposits" include amortization funds of Treasury Bonds, checks of the director of the central bank, gold certificates, exchange certificates, import and export deposits.

[f]Dividends, pending drafts, other accounts of the national government.

[g]Paid capital and reserve fund.

[h]Amortization fund of the external debt, national coffee fund, silver certificates in circulation, other liabilities.

[i]"Other banking institutions" include all commercial banks, both national and foreign; the Banco Cafetero; the Banco Popular; the Banco Ganadero; the Caja de Crédito Agrario, Industrial y Minera; the Caja Colombiana de Ahorros prior to its absorbtion by the Caja Agraria in November, 1955; the Banco Prendario Nacional prior to its absorbtion by the Banco Popular in December, 1957; and the small private savings banks.

[j]Including loans discountable, non-discountable and discounted at the central bank.

[k]"Other assets" include deposits in other banks of the country; bank buildings, furnishings; interest; non-paid capital; capital of agencies and branches; exchange operations; share of the central bank; and other miscellaneous assets. This account also serves as a correction item. Therefore, in addition to "other assets," this item also contains the sum of the "deposits in the Banco de la República" of "other banking institutions," as recorded by the balance sheets of these institutions, minus the sum of the "deposits of shareholding banks in the Banco de la República" and "deposits of non-shareholding banks in the Banco de la Repúblic," as recorded in the balance sheets of the Banco de la República.

[l]"Order deposits of other banking institutions" was obtained as the sum of all demand deposits in the commercial banks and in all other banking institutions maintaining demand deposits, minus the total amount of checking deposits in all banks other than the Banco de la Republica.

[m]Includes capital for the special savings sections.

[n]Reserve funds, exchange operations. Also includes Industrial Bonds (Banco Popular), and Bonds outstanding in the hands of other banking entities (Caja Agraria and Banco Ganadero).

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BIOGRAPHY

David Trescott Geithman was born in Chicago, Illinois on June 23, 1938. He emigrated with his family to Miami, Florida in 1948. Mr. Geithman graduated from Miami Senior High School in June, 1956, and entered the University of Miami the same year. In September, 1957 he enrolled at the University of Florida, and received the degree Bachelor of Science in Business Administration, with honors, in June of 1960. He returned to the University of Florida in February, 1961 to begin studies towards a Master of Arts in Economics, and subsequently received that degree in June, 1962. From that date until the present time he has pursued his work toward the degree Doctor of Philosophy in Economics. Since September, 1964, Mr. Geithman has been a full-time teaching instructor in the Department of Economics, University of Florida.

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This dissertation was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of that committee. It was submitted to the Dean of the College of Business Administration and to the Graduate Council, and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 19, 1964

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